Understanding Recruitment to Organized Crime and Terrorism
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Introduction

David Weisburd, Ernesto U. Savona, Badi Hasisi, and Francesco Calderoni

The New York Mafia has launched an unprecedented recruitment drive after deaths, defections and the unwelcome interventions of the FBI have cut the number of “wise guys” under its command by more than 10 per cent in a year. Numbers on the streets fell from 634 to 570 during 2000, according to the FBI, prompting the Italian crime families that still run many of the city’s drugs, gambling, extortion and prostitution rackets to “open the books” to new members… The existence of the recruitment drive was confirmed to the authorities by an informant, Michael “Cookie” Durso.”

Short-staffed Mafia makes a job offer you can’t refuse. The Daily Telegraph (Leith 2002)

Britain’s most senior counter-terrorism officer has said the police and security services are no longer enough to win the fight against violent extremism, and the UK must instead improve community cohesion, social mobility and education. In his first major interview since taking up his post last year, the Metropolitan police assistant commissioner Neil Basu told the Guardian that up to 80% of those who wanted to attack the UK were British-born or raised, which strongly indicated domestic social issues were among the root causes. Grievances held by people who were “malleable” to terrorist recruitment were highly dangerous, he said, calling for sociologists and criminologists to take a leading role in helping police tackle the problem.

Counter-terror chief says policing alone cannot beat extremism. The Guardian (Dodd 2019)

Organized crime and terrorism stand as two of the key threats to social organization and government in Western countries today (Shaw and Mahadevan 2018). Organized crime stands behind many illegal enterprises that cater to public desires that the government seeks to control. These include prostitution, drugs, gambling, and protection rackets, which have formed a key aspect of organized criminal...
behaviour for the last century or more (Shelley 1995; Albanese 2014). But organized crime has also been key in creating competitive economies for goods that are highly taxed, like cigarette sales or liquor (Savona et al. 2017). And importantly, organized crime groups have often resorted to violence, infiltrated the legal economy, and undermined legal and political institutions to protect their control over these enterprises (Fleenor 2003; Savona et al. 2016).

Terrorism has served as a more recent threat in Western democracies, though terrorism has operated in one form or another for centuries or even millennia (Rapoport 1983, 2004). Already in ancient times Cicero rallied the Roman government to act harshly against terrorism, when Catiline conspired to assassinate government officials and set the city ablaze.1 Nevertheless, it is only in more recent times, especially since the events of 9/11, that terrorism has become a more central focus of policy in Western countries.

The goals of terrorists differ from organized criminals, in that their primary interests are in changing political or social systems, rather than simply protecting their economic or social control over specific industries. Nonetheless, terrorism, whether left or right-wing or religiously motivated, and organized criminal organizations, whether mafias, gangs, or other entities, have impacted social order in most Western democracies—whether reflected in heightened levels of fear among citizens who become afraid to carry out their daily routines (e.g. Mesch 2000; Malik et al. 2018), or changes in security procedures that restrict everyday access to public and private institutions (White 1998) or increases in aggressive security procedures against specific ethnic, national, religious or racial groups (Wolfendale 2007). Additionally, different sectors of the economy can potentially suffer damages as the result of both terrorism (e.g. Berrebi and Klor 2010; Aslam et al. 2018) and organized crime (e.g. Lavezzi 2014; Calderoni 2014; Pinotti 2015). The impacts of terrorism, like organized crime, are broadly spread across the social systems of modern democracies.

In recent years, multinational governmental bodies have placed an increasing focus on the need to cooperate to combat both organized crime and terrorism, reflected in multiple UN resolutions. A host of organizations have either been created for this expressed purpose, or have adjusted their scope and focus towards such objectives. For example, INTERPOL and EUROPOL expanded their mandate to include deeper cooperation on combatting both organized crime and terrorism following the events of 9/11 (Deflem 2007). In recent years, organizations such as the United Nations Office on Drugs and Crime (UNODC) have taken on an increased interest not only in transnational organized crime networks but in issues pertaining to terrorism as well. Meanwhile, a host of other organizations, such as the Action against Terrorism Unit (ATU) of the Organization for Security and Co-operation in Europe (OSCE), have been created for the express purpose of combatting organized crime and terrorism, and specifically facilitating cooperation towards these goals).

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Both types of crime cross traditional jurisdictional boundaries. Many of the activities of organized crime now cross national borders, whether they involve human trafficking, or the networks of distribution of drugs or guns, or money laundering and other financial crimes (Kleemans, Soudijn and Weenink 2013). Similarly, terrorists no longer focus simply on the immediate, local or national grievances that have often sparked their emergence. Not only do terrorists’ grievances, doctrines, and movements cross national borders, but even terrorist actors themselves. The skyjackings of the 1960’s demonstrated to the western world that terrorists were prepared to carry out attacks on ‘foreign soil’, and that terrorism had become ‘internationalized’ (Hasisi et al. 2019). As Attorney General John Ashcroft commented in 2002, “The menace of terrorism knows no borders, political or geographic.”

A key question is whether there is reason to study organized crime and terrorism in a single research program. The fact that they both raise key threats to social order, does not mean that they have enough commonality to encourage academic focus, or similar prevention approaches. While for several decades the study of organized crime and terrorism have proceeded in parallel, since the early 1990’s there has been an emerging interest in research on the overlaps between these two phenomena. Some of this research emphasized the important links between organized crime and terrorism, not only conceptually, but also in terms of the actors, and at the levels of activities, cooperation and organization (Bassiouni 1990; Schmid 1996; Taylor and Horgan 1999; Williams 1998; Clarke and Newman 2006; Decker and Pyrooz 2011, 2014; Basra and Neumann 2017). Additionally, some scholars argued that organized crime groups and terrorist groups may interchangeably engage in both criminal and terroristic activities, and that both types of groups may even cooperate with each other in furtherance of their mutual and exclusive goals (Makarenko 2004; Mullins 2009; Schmid 2018).

Within this growing research interest, however, some scholars have also cautioned against overstating the overlap between terrorism and organized crime (Hutchinson and O’malley 2007; Dishman, 2001, 2005), emphasizing that violent extremists and gang members in the US for example differ in terms of several personal characteristics (Pyrooz et al. 2018), and that there remain important differences in their origins and goals (Desmond and Hussain 2017; Felbab-Brown 2019). Overall, while the possible overlap between terrorism and organized crime is certainly a central issue in recent study of complex forms of group criminality, the debate on the theoretical, conceptual, and actual extent of overlap is still open and will likely be settled through “painstaking empirical research” (Bovenkerk and Chakra 2005, 13). With the purpose of contributing to this debate, our research program sought to contribute knowledge both to our understanding of recruitment into organized crime and terrorism.

Recruitment has long been a key issue for control and study of gangs, although less so for organized crime and terrorism (Densley 2012; Smith 2014; Finelli 2019; Leukfeldt and Kleemans 2019). Yet, as the news articles above suggest, whether in the case of organized crime or terrorism, recruitment raises important concerns for social control of these phenomena. In New York, during a period in the early 2000s, when organized crime groups were under tremendous pressure from police and
prosecutors, the Mafia sought to increase recruitment. Recently, police agencies have begun to recognize that recruitment to terrorism is intrinsically linked to the social grievances and social conditions of communities in Western democracies. Recruitment is a key issue in the long term control of terrorism and organized crime. And at least from initial studies it appears that for both organized crime and terrorism, potential recruits tend to be drawn from the same general pool of the population (Basra and Neumann 2017), and that their pathways to recruitment have strong similarities (Benavides et al. 2016; Vishnevetsky 2009).

But the body of research on recruitment remains relatively sparse. Over the years it has been estimated that as little as a few percent of radicalization research (Neumann and Kleinmann 2013), and terrorism research more broadly (Sageman 2014) is quantitative or data driven. Importantly, research on the economic, social, and psychological risk and protective factors for recruitment to terrorism have largely been limited to a small set of socio-demographic factors (Stern 2016). With respect to organized crime, the majority of the research has been qualitative, with few quantitative studies. Even among the quantitative literature, the focus has primarily been on the prevalence, or costs of organized crime, and little attention has been paid to the offenders themselves, let alone the individual-level risk factors for recruitment to organized crime (Thompson 2019). While research has highlighted that there are important similarities between organized crime and terrorism offenders, and with ordinary criminals, recent findings suggest that there may also be important differences in the key risk factors that predict recruitment for both organized crime offenders and terrorism offenders (Blokland et al. 2019; Liem et al. 2018; Pyrooz et al. 2018). The lack of rigorous studies into recruitment to organized crime (Levi and Maguire 2004) and terrorism (Lum, Kennedy and Shirley 2006) means that policies are often not evidence-based, or may be based on theoretical assumptions, or assumptions drawn from a relatively small number of case studies.

What are the factors that lead to recruitment to organized crime and terrorism, and how are they similar or different? What role do situational factors play in recruitment, as contrasted with social or psychological causes? What impacts do responses of society to these phenomena have upon populations that are considered high risk by social control agents? These were the key questions that we sought to answer in the context of a large European Horizon 2020 research and innovation funding program. In order to accomplish this, the research consortium included a wide spectrum of partners from the EU, US, Switzerland, and Israel, as well as representatives from key institutions, such as the UNODC and EUROPOL.

The “PROTON” (Modelling the Processes Leading to Organized Crime and Terrorism) consortium was led by the TRANSCRIME Centre at Università Cattolica del Sacro Cuore in Milan, Italy, and co-coordinated by the Institute of Criminology at the Hebrew University of Jerusalem. In order to capitalize on the strengths of each institute, TRANSCRIME led the organized crime track of the project, and HUJI led the terrorism track. Each track consisted of a series of independent research projects. Project PROTON placed a focus on conducting unique, original studies, employing new and original datasets.Primarily, the studies were focussed on identifying the micro, meso, and macro level factors that increase the risk of recruitment
to organized crime, and radicalization and recruitment to terrorism. From its con-
ception, the individual research tasks, as well as the project overall, were designed
specifically to fill key gaps that were identified in the existing body of knowledge.

Our goal in this volume is to present key findings from the project that illuminate
our understanding of recruitment to organized crime and terrorism. As detailed
below, the papers included add substantive and significant knowledge to our under-
standing of these questions focusing on the economic, social, and psychological
factors that increase the likelihood of recruitment. Below, we first briefly review the
existing literature on recruitment to terrorism and organized crime, identifying key
gaps in the literature. We then turn to the specific contributions in the volume and
summarize how they have added to the knowledge base in this area. Finally, we
revisit the question of similarities and differences between factors influencing
recruitment based on the papers in the volume, and try to draw broader conclusions
about how this knowledge can inform societal responses to the problem of
recruitment.

Radicalization and Recruitment to Terrorism

Radicalization and recruitment to terrorism are two separate but interrelated out-
comes. Radicalization generally refers to the development of attitudes, beliefs, and
ideas that justify the use of radical violence to promote change, and thereby which
could lead to radical violence. On the other hand, recruitment is when an individual
has been solicited, or convinced, to carry out illegal activities that fall under the
category or legal definition of terrorism. As such, radicalization generally under-
pins recruitment, or is at least a near universal precursor to it. Nevertheless, only a
very small percentage of radicalized individuals will ever turn to terrorism
(McCauley and Moskalenko 2017; Neumann 2013). A key goal of radicalization
research is therefore to identify what differentiates non-violent from violent radicals
(LaFree and Freilich 2016).

Many scholars now believe that there must be certain risk factors that explain
why some members of an aggrieved group are led to justify radical violence, while
the majority do not. It also must be that certain risk factors could explain why a
small proportion of radicals go on to engage in terrorism offending, whilst most do
not (Armstrong et al. 2019; Haddad 2017; Sarma 2017; Stern 2016). The best meth-
ods for identifying which factors may be the most important for explaining these
different outcomes is to compare radicals with non-radicals, and violent radicals
with non-violent radicals (Knight, Woodward and Lancaster 2017; LaFree and Freilich 2016). Unfortunately, to date, few studies have taken this approach. The

2 These definitions are according to those of the European Commission’s strategy for combating
radicalisation and recruitment (2005, 2014). While there is an extensive literature surrounding
the debate over these definitions, the EU definitions are sufficiently broad so as to encapsulate the
primary elements of the phenomena being discussed.
relatively young literature on radicalization is still made up of primarily theoretical, or qualitative study, with quantitative study representing only a small proportion of the body of knowledge (Neumann and Kleinmann 2013). While the literature has identified a range of factors that appear to be correlated with radicalization outcomes, the evidence remains quite mixed, and certain factors have been given more attention than others (Allan et al. 2015; Bondokji, Wilkinson and Aghabi 2017).

For example, one of the most commonly discussed factors is socio-economic status. Whilst many believed, and still believe, that poor economic conditions increase the risk of radicalization and recruitment to terrorism, most studies have found non-significant or at best weak relationships between individual socio-economic status and radicalization outcomes. Similarly, with regards to education, the evidence is quite mixed. While some studies have identified lower education as a risk factor, others point to a high prevalence of higher education among recruited terrorism offenders, and the university campus as a hot-spot of recruitment (Allan et al. 2015; Bondokji, Wilkinson and Aghabi 2017; Victoroff 2005). Other related factors, such as unemployment, underemployment, recent job loss or employment instability, do appear to have more consistent effects. Whilst objective socio-economic status may not be as important as some believe, subjective forms of deprivation, such as collective and individual relative deprivation, which includes elements of perceived group-based discrimination, have been found to be strong predictors of radicalization.

The findings concerning subjective beliefs and perceptions are perhaps even more interesting if contextualized as socio-psychological factors. The study of psychological factors has undergone a pendulum swing since radicalization became a topic of interest to researchers. While early terrorism scholars often assumed that terrorists must be ‘mad men’, a growing body of evidence found that the only psychological constant among terror recruits was an overwhelming normality (Kruglanski and Golec 2004; Merari 2004; Horgan 2005; Gill 2012). As this became the prevailing wisdom, the study of psychological factors became scarce (Victoroff 2005; Victoroff, Adelman and Matthews 2012; Stern 2016). Yet in recent years a new focus has been placed on the role of mental-illness more broadly, and psychological and personality traits in particular (Gill and Corner 2017). While these factors are well known to criminologists and strong predictors of a range of criminal attitudes and behaviors, the number of studies that examine these types of factors with respect to radicalization and recruitment to terrorism is still small.

Recruitment to Organized Crime

The emergence of criminal organizations has been explained as being driven by a wide range of factors, including social, economic and psychological ones (see e.g. Lyman and Potter 2006). But scholars have generally argued that social factors occupy the primary role in guiding the decision to become involved in an organized crime (OC) network. Indeed, OC has particular characteristics that differentiate it
from high-volume crime: in OC, social relations are more important; there is a transnational dimension; the activities are more complex and they require several co-offenders and specific expertise (Cornish and Clarke 2002; Kleemans and de Poot 2008). Relations with co-offenders are important, but not always sufficient, because these offenders may not possess the necessary capabilities. Contacts with the legal world are also important for activities of this kind. Many people lack these contacts and expertise, and some acquire them only later in life, e.g. through their professional activities and contacts.

Kleemans and van Koppen (2014) identified three key aspects guiding the choice of involvement in OC. Firstly, besides the presence of career criminals in the world of OC, researchers have pointed to the presence of a group of ‘late onset’ offenders. This finding is robust across several different criminal activities (drugs, fraud, and other activities) and different roles in criminal groups (leaders, coordinators, and lower-level suspects). This presence contradicts the general ideas that crimes in adolescence precede crimes at a later age, and that individuals’ characteristics and long-term risk factors are the main explanations of a life in crime. Secondly, various involvement mechanisms play a role in OC. Besides deliberate recruitment, four other involvement mechanisms are important: social ties and the ‘social snowball effect’, work ties, leisure activities and sidelines, and life events (including financial setbacks). Thirdly, work relations and work settings may be the breeding grounds of OC activities, particularly for cross-border crimes.

Economic factors have generally received less attention. However, the recent literature (see Lavezzi 2008; 2014, and the references therein) has identified three economic factors determining the evolution of OC. Firstly, the structure of the economy can provide a favorable environment for typical OC activities, such as extortion and protection. Lavezzi (2008), who draws insights from Schelling (1971), argues that Sicily is a prime example of a region plagued by the presence of OC, and links OC to an economy characterized by a large proportion of small firms, large sectors of traditional/low-tech economic activities, a large construction sector, and a large public sector. Secondly, imperfections in the credit markets can create opportunities for usury, especially in the absence of the rule of law. Thirdly, the presence of illegal and informal markets, where legal institutions cannot be invoked to establish rules, create opportunities for OC to provide an alternative rule of law and also to act as a law enforcer.

Surprisingly, the economic literature has paid little attention to the role of inequality. Only one study we know of examined the effects of poverty and deprivation, such as the emergence of inner city gangs (e.g. Lyman and Potter 2006). Yet inequality can lead to the emergence of OC. Indeed, data from Italian regions show that in the Southern regions, where criminal organizations are pervasive, income inequality measured by the Gini index is relatively high. This phenomenon has deep historical roots, which have been analyzed, for example, in terms of the role of land ownership in the emergence of OC by Bandiera (2003).

Other factors, such as self-reinforcing mechanisms, may also impact on the emergence of OC and may affect both inequality and social mobility. Social mobility is typically measured by intergenerational mobility, which quantifies the degree
of fluidity between the parents’ socio-economic status and the offspring’s socio-economic status as adults. Wealthy members of society may reinforce their claims to resources by utilizing OC and distorting the efficient allocation of physical and human capital. As a result, the presence of OC may lead to less social mobility and lower economic growth. Under certain conditions, the presence of OC may generate poverty traps that prevent the children of low-income families from having any better opportunities than recruitment by the mafia.

As regards psychological factors, members of OC show not only a general predisposition to violence but also more complex cognitive and emotional traits determining their functional roles in OC networks. Nevertheless, few studies have used neuroscientific tools to identify the principal psychological and cognitive determinants of the complex criminal behaviors that characterize OC. Most studies use as their tool of investigation only the Psychopathy Check List-Revised (Ostrosky et al. 2011), a controversial instrument with a number of limitations, the most important being the diagnosis of psychopathy itself (Hare 1999; Edens 2006). Moreover, neuroscientific tools such as neuropsychological and genetic tests and even neuroimaging are widely used in courts to explain (and sometimes justify) criminal behaviors (Jones et al. 2013). To advance understanding of the psychological determinants of criminal behaviors in an innovative manner, it is necessary to adopt these new tools as well, and thus move beyond the tools and models used by classic criminology (Walsh and Beaver 2009).

The Studies

Our review of present knowledge about recruitment to terrorism and organized crime suggest the scarcity of studies on key issues in this area of research. The PROTON studies sought to fill many of the gaps in the literature. The purpose of this effort in PROTON was to inform the development of simulation models for testing different types of societal interventions to reduced recruitment. However, these studies have produced important findings that advance the knowledge base in this area. And that is the reason for our joining together these contributions in this volume.

We begin in Part I focusing on the terrorism track of PROTON with systematic reviews of the existing literature in the chapters “What is the State of the Quantitative Literature on Risk Factors for Radicalization and Recruitment to Terrorism?” and “Resilience Against Political and Religious Extremism, Radicalization, and Related Violence: A Systematic Review of Studies on Protective Factors”. Systematic reviews of research evidence are characterized by careful searches of the research literature, including both published and unpublished studies, and researchers in our case sought to draw general conclusions from work based on meta-analytic statistics (Lipsey and Wilson 2001; Petrosino, Boruch, Farrington, Sherman, and Weisburd 2003; Weisburd, Farrington, and Gill 2017). In the first review, Wolfowicz, Litmanovitz, Weisburd and Hasisi identify and describe the makeup of the quantita-
tive literature on risk factors for radicalization and recruitment to terrorism. The review identifies that there has been a significant uptick in publications in recent years, with the majority of the 57 included studies published since 2016. Whilst the majority of studies focus on Islamic radicalization, a number of studies have examined mixed samples, without focusing on any particular form of extremism. The majority of studies examine radicalization of beliefs, most commonly by assessing support or justification of different forms of terrorism. Only a small number of studies were identified which compare terrorists with control or comparison groups of non-terrorists. The findings of the review were that while socio-demographic characteristics are the most commonly explored factors, they had relatively small effect sizes. On the other hand, traditional criminogenic (e.g. criminal history, unemployment, low self control, and differential associations) and criminotrophic factors (e.g. general obedience to the law and strong social bonds) were found to have the strongest correlations with radicalization and recruitment outcomes.

These findings are consistent with Lösel, Bender, Jugl, and King’s systematic review on protective factors, which found important overlaps in the types of protective factors against radicalization and recruitment to terrorism with those known from the literatures on delinquency and crime. The chapter details the evidence collected from 28 studies pertaining to 30 identified protective factors. While the number of studies and factors is somewhat small, the review found significant overlap with the protective factors known for general resilience and desistance from ordinary crime, including: self-control, adherence to law, acceptance of police legitimacy, illness, non-deviant significant others, positive parenting behavior, good school achievement, non-violent peers, contact to foreigners, and a basic attachment to society.

The chapter: “Terrorist Recidivism in Israel: Rates, Patterns and Risk Factors” looks at recidivism for terrorist offenders. The literature has pointed to this as a key gap in the body of knowledge for over a decade, and yet little empirical research has been conducted (Ahmed 2016; Veldhuis and Kessels 2013; Pluchinsky 2008; Schuurman and Bakker 2016). This is primarily due to a lack of settings in which sufficient base rates can provide for meaningful analysis. Given that in the coming years many terrorist offenders in Europe are set to be released, the importance of such study cannot be underestimated. Taking up this challenge, Carmel, Wolfowicz, Hasisi and Weisburd examined recidivism to terrorism in Israel, as well as a number of key factors that affect the likelihood of recidivism. Following the general trends identified in criminology regarding the rates of recidivism to the same offence compared to overall recidivism, the study identified that the rate of recidivism to terrorism offending is about half of the general recidivism rate in Israel. Examining the rates more in depth reveals that that recidivism rates were found to increase with each additional incarceration. Older age at time of release and longer sentences were both found to be correlated with a lower risk of recidivism.

In recent years there has been an increased interest in the potential for counter-terrorism policing policies to have unintended negative outcomes. Some have suggested that hard approaches to counter-terrorism policing, which target or single out specific minority communities and members, can potentially even lead to a backlash
effect and increase the risk of radicalization and recruitment to terrorism (Choudhury and Fenwick 2011; den Boer 2015; Harcourt 2006; LaFree and Ackerman 2009).

Tankebe uses perspectives on procedural justice to provide a framework for understanding this dilemma in the chapter “Unintended Negative Outcomes of Counter-Terrorism Policing: Procedural (In)Justice and Perceived Risk of Recruitment into Terrorism”. He employs an experimental vignette design to examine how the nature of counter-terrorism practices affect people’s perceptions of the risks of recruitment into terrorism. A national representative sample of Muslims in the UK was randomly assigned to one of four experimental conditions showing (a) procedurally just street stops, (b) procedurally unjust street stops, (c) procedurally just counter-terrorism raids, or (d) procedurally unjust counter-terrorism raids. After reading the scenarios participants completed a short questionnaire on the likely effects of the condition. Procedurally unjust street stops were deemed to cause increased risks of radicalisation. However, there was no evidence that procedurally unjust counter-terrorism raids had similar unintended negative consequences.

One of the largest gaps in the literature relates to the lack of studies that compare violent and non-violent extremists. Drawing on data from the PIRUS dataset, Michael Jensen and colleagues examine the role of a number of key risk factors in differentiating between these two groups in the chapter “The Link Between Prior Criminal Record and Violent Political Extremism in the United States”. The study finds that prior criminal history is the single strongest predictor of violent extremist offending. Moreover, extremist offenders acting upon far right-wing ideologies are more likely to have criminal histories than other extremists. The study also found that juvenile criminal offending was a greater risk factor than adult criminal offending for later extremist offending.

In the chapter “Testing a Threat Model of Terrorism: A Multi-method Study About Socio-Economic and Psychological Influences on Terrorism Involvement in the Netherlands”, Frank Weerman and colleagues provide a mixed methods study to investigate the role of socio-economic and psychological factors and processes leading to involvement in terrorism. The study includes a qualitative component in which the researchers compare interviews conducted in the Netherlands with four detained terrorism offenders, and a number of ordinary criminal offenders and other informants. The study’s quantitative component includes an analysis of socio-economic and socio-psychological factors for all terrorism offenders in the Netherlands (N = 279). The study had two different control groups. One was a sample of matched common criminals (N = 279), and the other a sample drawn from the general population from official statistics (N = 6000). The study found that compared to the general population, terrorism offenders were more likely to be first or second generation immigrants, have criminal histories, and be unemployed or recently experienced job loss.

Part II of this volume presents studies of recruitment to organized crime. As with Part I on terrorism, Part II begins with a systematic review of the social, psychological, and economic factors relating to involvement and recruitment into organized crime groups (OCGs), including mafias, drug trafficking organizations (DTOs), gangs, and other criminal organizations. The review searched all possible relevant studies indexed in selected databases and published in five languages (i.e. English,
French, German, Italian, and Spanish), without limitations as to their year of publication or geographic origin. Starting from 48,731 potentially eligible records, integrated with experts’ suggestions, this systematic review includes 47 empirical studies employing quantitative, qualitative, or mixed-methods approaches. The findings show that social and economic factors are the most commonly reported factors relating to recruitment into OCGs, while psychological factors are marginal. Although factors are highly interrelated and shared across OCGs, their predominance varies across types of criminal organizations. For instance, individuals join mafias and gangs attracted by strong group identity, whereas individuals enter DTOs mainly for financial gain.

In the chapter “Socio-Economic Inequalities and Organized Crime: An Empirical Analysis” Battisti and colleagues carry out a macro level study by examining data spanning from 1985-2014. They investigate the relationship between inequality and organized crime at the regional level, assessing the role of social mobility in organized crime. The study found that higher levels of inequality are associated with greater organized crime development. The study also found that lower socio-economic mobility displays a robust association with organized crime development.

Moving towards individual level factors, Savona and colleagues provide the first analyses of the criminal careers of Italian Mafia members in the chapter “The Criminal Careers of Italian Mafia Members”. The analysis is based on the unique Proton Mafia Member dataset, provided by the Italian Ministry of Justice, with information on all individuals who received a final conviction for mafia offences since the 1980s. The PMM includes information on more than 11,000 individuals and 182,000 offences. The study explores the criminal careers of mafia members following a three-level approach, analyzing the macro, meso, and micro dimensions. At the macro level, Italian mafias’ members show different types of criminal trajectories, with a significant portion of the sample exhibiting a late onset and late persistence pattern. At the meso level, the four main types of mafias (the Sicilian Cosa Nostra, the Neapolitan Camorra, the Calabrian ‘Ndrangheta, and the Apulian mafias) report very similar traits although some distinctive patterns emerge. At the micro level, there are differences in criminal careers between early- and lately recruited members, with the former showing higher frequency of violent, volume crime and the latter a more complex, white collar profile. A further exploration of the PMM data shows an escalation in both the number and the seriousness of crimes before joining the mafia, which subsequently stabilizes afterwards.

While previous studies have shown that criminal behaviour is associated with antisocial, borderline, narcissistic, and other personality disorders (Butler et al. 2006; Fazel and Danesh 2002; Roberts and Coid 2010), these factors are rarely assessed when it comes to organized crime offenders. Addressing this key gap in the body of knowledge, Salvato and colleagues set out to investigate the psychological profile of organized crime members in the chapter “Investigating the Psychological Profile of Organized Crime Members”. They gave personality tests to 100 prisoners (50 organized crime offenders and 50 common criminals) incarcerated in Italy. The results showed that masochistic personality disorder was more likely to be found among organized crime offenders than ordinary criminals.
Moving to a different European context, Madarie and Kruisbergen explore organized crime in the Netherlands in the chapter “Traffickers in Transit: Analysing the Logistics and Involvement Mechanisms of Organised Crime at Logistical Nodes in the Netherlands”. The Netherlands functions as an important source and transit country for international organised drug trafficking. This is in part due to its large logistical nodes in the world economy, like the airport and the seaport. Although knowledge on organised crime offenders engaging in transit crime has accumulated recently, systematic analyses of offenders operating on logistical nodes are still rare. Based on in-depth analyses of 16 cases of the Dutch Organised Crime Monitor, this chapter explores how drug traffickers operate at logistical nodes, in particular airports. Furthermore, the occupational and social embeddedness of organised crime activities and the personal motivations of drug traffickers to become and stay involved are analysed. Although the main analyses focus on organised crime at airports (11 cases), organised crime at seaports (5 cases) is analysed as well in order to compare the logistics and involvement mechanisms at the airport with those at the seaport.

The results demonstrate that organised crime groups deploy mainly three types of tactics to traffic drugs, namely defying, avoiding, and neutralising security checks. Occupational embeddedness is manifested through several job-related factors. Autonomy, mobility, and the similarity between legitimate duties and criminal activities facilitate discrete engagement in organised crime activities during work time. Port employees are also attractive to organised crime groups because of their job-related social capital and knowledge. Co-offenders are recruited through snowballing and are most often family members or former colleagues. Finally, social bonds and money are both important in becoming and staying involved. Greed is more often a reason to stay involved than a need for money. If members do want to leave the group, threats of violence are not shunned.

In another study focussed on the Netherlands, Van der Geest and colleagues explore the relationship between delinquent development, employment and income in a large sample of Dutch organized crime offenders in the chapter “Delinquent Development, Employment and Income in a Sample of Dutch Organized Crime Offenders: Shape, Content, and Correlates of Delinquent Trajectories from Age 12 to 65”. The analyses provide an in depth exploration of offending and risk factors over the life-course. The study found that on average, organized crime offenders’ peak offending occurred at ages slightly older than common criminals. The overwhelming majority of offenders had criminal histories preceding their first organized crime offence, and had multiple subsequent offences.

**Overlap and Distinctive Patterns: What We Learned**

As we noted at the outset PROTON not only sought to increase the knowledge base about recruitment to terrorism and organized crime, it also sought to identify the extent to which these areas of study would benefit from examination in the context
of a single research program. Our chapter so far has documented the rich body of new research our project has generated in both of these areas. We think that this is the largest collection of essays focused on recruitment to organized crime and terrorism that has been published to date. And our studies provide important new insights into the social, economic and psychological forces that lead to recruitment to both terrorism of organized crime. But a key question we want to turn to before concluding this introduction is whether this research encourages us to see recruitment as a general phenomenon for crime and terrorism research, or whether it suggests that little can be gained by their combination in a single area of study.

We want to emphasize again that the studies in this volume reinforce what we noted in our reviews of the literature to date. The study of risk factors for recruitment to terrorism and organized crime remains underdeveloped compared to similar study pertaining to common criminality. Nonetheless, the studies included in this volume provide important additions and contributions to the body of knowledge, each exploring key topics through the use of a range of methods and unique samples.

A key conclusion of our project is that there is a substantial degree of overlap in our findings across terrorism and organized crime. It is simply not right to say that these areas of study are so distinct that each has little to inform in terms of the other. In fact, the recruitment into both terrorist and organized crime groups is likely to follow common pathways. Nor is it right to say that we can learn little from more general studies of criminality and crime for understanding recruitment to organized crime and terrorism. It is certainly the case that these crimes have important distinctions from each other and from common crimes. Nonetheless, the PROTON studies show that factors relating to key criminological theoretical perspectives and empirical evidence pertaining to general criminality appear highly relevant for both organized crime and terrorism.

For example, socio-economic factors are key issues for understanding involvement in organized crime and in terrorism, as they are key factors in understanding common crimes (Pratt and Cullen 2005). Nonetheless, it is important to point out substantive differences that emerge from our studies. While socio-economic factors are important for understanding recruitment to terrorism, objective economic deprivation appears to be less important for terrorism offenders than for common criminals. Rather, under-employment and recent job-loss may be related to perceived injustices, discrimination, and feelings of subjective deprivations and these feelings are often key to understanding recruitment to terrorism. These differences highlight the fact that while criminals and terrorists may arise from the same general pool of the population, they differ in how economic factors influence their recruitment.

The studies also highlight the extent to which personality-trait related factors are key for both organized crime recruitment and radicalization and recruitment to terrorism. Masochistic personality traits appear to be a risk factor for recruitment to organized crime. Low self-control acts as an important risk factor for recruitment to terrorism. These are interesting and important findings that suggest significant overlaps in recruitment. However, we want to emphasize again that the role of psychological factors remains under-researched, and this should be an area of significant inquiry in future studies.
Perhaps one of the most striking overlaps between terrorism and organized crime recruitment is with respect to the role of criminal history for both organized crime and terrorism offenders. The findings of the PROTON studies represent some of the first explorations of this issue, and they suggest not only overlap between organized crime and terrorism, but also that findings regarding common crime offenders are relevant for understanding terrorism and organized crime.

The criminological literature has long found that prior criminality is one of the strongest predictors of future offending, including repeat offending (recidivism), across virtually every type of offence (e.g. Gendreau et al. 1996; Kyckelhahn and Cooper 2017). Even in the case of white collar crime there is now strong evidence of repeat offending (Weisburd et al. 2001; Benson and Simpson 2014). While the radicalization literature has in recent years begun to focus on the role of prior criminality (e.g. Ljujic, van Prooijen and Weerman 2017; Rostami et al. 2018; Bakker 2006, 2011; Bakker and de Bont 2016; Weenink 2015; Basra and Neumann 2017; van Leyenhorst and Andreas 2017; Boncio 2017; Heinke 2017; LaFree et al. 2018; Smith 2018; Horgan et al. 2016), the evidence produced by the chapters in this volume shed new light on the extent of the issue. Prior criminality was found to be a significant predictor for being a terrorism offender compared to the general population as well as non-violent extremists. It was also found to be a significant predictor for recidivism to terrorism. Similarly, criminal expertise and criminal records were found to be among the main factors for recruitment into organized crime.

Importantly, our studies also identified the importance of perceptions of legitimacy in preventing recruitment to terrorism. There is a growing body of literature in criminology that focuses on how police treat offenders and how that may have strong influence on perceptions of police legitimacy (Mazerolle, Antrobus, Bennett and Tyler 2013; Tyler 2017; for an opposing view see Nagin and Telep 2017). Tankebe’s examination of perceived reactions to unjust police stops in the chapter “Unintended Negative Outcomes of Counter-Terrorism Policing: Procedural (In) Justice and Perceived Risk of Recruitment into Terrorism” shows that police behaviour can be a risk factor in recruitment to terrorism. This is an important finding, that supports concerns about procedurally unjust police behaviour (Worden and McLean 2017).

Our comments here suggest that the original motivating idea of PROTON was a useful one for expanding knowledge of recruitment more generally. There are certainly differences that need to be recognized between organized crime and terrorism recruitment. For example, the study of organized crime at air and sea ports described in the chapter “Delinquent Development, Employment and Income in a Sample of Dutch Organized Crime Offenders: Shape, Content, and Correlates of Delinquent Trajectories from Age 12 to 65” emphasizes the difference between common crimes and organized crime, and also points to distinctions with terrorism. But even here, there are commonalities that are important. Recruitment for example, comes through networks of friends or former workers. A failure to recognize such overlaps in our understanding of these phenomena limits the development of serious academic study. The examination of these problems in a single research program has allowed
us to see the commonalities between these two types of criminal recruitment. We think that this has enriched our research program, and its contributions to existing knowledge.

Conclusions and Policy Recommendations

Our volume has added specific knowledge to the understanding of recruitment to terrorism and organized crime. It also emphasizes as we noted in the previous section the extent to which core criminological ideas can be applied across these phenomena. Risk factors often overlap, despite some important distinctions, and the mechanisms of recruitment are often similar. These studies suggest the importance of key criminological perspectives for understanding recruitment to both organized crime and terrorism, such as that of criminal careers (e.g. Kleemans and De Poot 2008; Horgan and Taylor 2011) and differential associations (e.g. Kleemans and van de Bunt 1999; Reinares et al. 2017). Indeed, our volume highlights prior criminality, and the role of social and work associations, as being important risk factors for recruitment to both organized crime and terrorism.

These findings mean that in some sense traditional models of crime prevention ought to be applicable and appropriate for dealing with both terrorism and organized crime. If we know that prior criminality is a strong predictor of involvement in terrorism and recruitment it can point us to high risk populations and the importance of preventing radicalization in such populations. It can also point us to the importance of prevention in prisons. At present, prevention programs generally focus on reducing common crimes in the future. But the PROTON studies suggest that prevention programs focusing on reducing radicalization or preventing involvement in organized crime should provide important foci for reducing recruitment.

Similarly, PROTON studies suggest the importance of socio-economic factors in recruitment. Again, they identify specific populations where radicalization and potential recruitment to organized crime are more common. But importantly they also suggest how economic programs can be used to prevent recruitment. In the case of terrorism, for example, it is clear that unemployment strongly increases risk of recruitment. Accordingly, employment programs focused on individuals of high risk for radicalization would seem to be an important potential prevention approach for policy makers.

Reducing radicalization in turn may require better training of the police. Reducing police activities that are perceived as unjust appears to be a salient approach for reducing radicalization. In turn, interruption of social networks that support organized crime recruitment would seem particularly important for reducing recruitment.

For the most part our studies have focused on the risk or protective factors that increase or decrease recruitment, or the mechanisms behind recruitment. In this sense our studies do not provide a direct set of policy proscriptions for reducing
recruitment to organized crime or terrorism. At the same time, our volume provides
new and important evidence about the recruitment process and risk and protective
factors that encourage and discourage recruitment. This knowledge, we believe,
should inform practitioners and policy makers as they seek to develop evidence
based and effective programs to reduce recruitment to organized crime or terrorism.

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Introduction


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Part I
Factors Affecting Radicalization and Recruitment to Terrorism
What Is the State of the Quantitative Literature on Risk Factors for Radicalization and Recruitment to Terrorism?

Michael Wolfowicz, Yael Litmanovitz, David Weisburd, and Badi Hasisi

Introduction

Terrorism research has become a field of increasing interest and importance over the last few decades. Since the events of 9/11, the number of publications in the field has increased exponentially. Despite the explosion in terrorism research, reviews of the literature have consistently bemoaned the dearth of empirical evidence (Silke 2001, 2007, 2009; Sageman 2014). Among the most prominent explanations given for the findings that as little as 3–5% of research is based on any form of empiricism, is the continued absence of definitional clarity and consensus. Scholars also refer to the lack of original data, and a tendency for terrorism research to reuse the same data sets many times over, as one of the primary limitations of the literature (Schuurman and Eijkman 2013). Such criticisms were summarized in Sageman’s (2014) infamous article on the ‘stagnation of terrorism research’.

However, others such as Schmid (2011) have had a more favorable and positive view towards the state of the literature and have countered that the situation is one that is much better than what others have painted. Indeed, it would seem that in recent years the literature is heading in a more positive direction, with an increase in the number of quantitative studies. According to Schuurman’s (2018) review of 3442 terrorism papers published between 2007–2016, 1.3% employed inferential statistics and a further 5.8% used a combination of descriptive and inferential statistics. On top of this, 14.7% of studies employed descriptive statistics.

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However, these reviews do little to inform us about the state of the literature on the different sub-fields that make up the terrorism literature (Reid and Chen 2007).\(^1\) Radicalization, one such sub-field that has dominated much of the terrorism discourse in recent years, remains a relatively young topic and perspective (Neumann 2013; Neumann and Kleinmann 2013; Schmid 2013). While much has been said about the broader terrorism literature, little is known about the state of the sub-literature on radicalization. Neumann and Kleinmann (2013) believe that the definitional issue has also inhibited the development of radicalization research. In their review of the rigour of radicalization research, Neumann and Kleinmann (2013) find that 74\% of the studies used qualitative methodologies, mostly case studies and narrative techniques, while 20\% used quantitative methods. While only 26\% of the qualitative studies demonstrated a high level of methodological rigor, the authors assessed that a whole 94\% of the quantitative studies were of high methodological rigor. As such, the state of the literature on radicalization appears to be somewhat more positive relative to Schuurman’s (2018) findings on the broader terrorism literature. Moreover, it would seem that quantitative research on radicalization accounts for a significant proportion of the terrorism literature’s quantitative publications.

While a number of other systematic reviews have sought to explore radicalization as a specific subfield of terrorism research, these reviews have been overly broad in their scope. Some reviews have even readily admitted that this approach has impeded their ability to achieving their own stated objectives (Christmann 2012). While these review provide important contributions, they are unable to answer specific questions, such as: What does the quantitative evidence say? What are the risk factors for radicalization? These are core topics of importance to radicalization research, especially given the findings of a recent systematic review on risk assessment tools which found them to be of generally poor quality and lacking an evidentiary basis (Scarcella et al. 2016). Indeed, systematic reviews are meant to address focussed and narrow research questions, unlike traditional reviews which explore topic areas (Gough et al. 2012; Khan et al. 2003).

This review seeks to address some of the issues that have hindered previous ones by in asking the specific and focussed research question of what are the risk factors of different radicalization outcomes in democratic countries as derived from quantitative studies? In asking this question we also seek to detail the qualities and characteristics of the quantitative literature in order to draw comparisons with the broader literature. In order to address this question and contribute to important gaps in the body of knowledge, this chapter is split into three sections. First, we conduct a review of prior reviews on radicalization and in doing so identify the primary limitations and methodological issues that characterize these studies. On this basis, the second section outlines the theoretical basis for our systematic review’s methodol-

\(^1\) Other subfields include but are not limited to: counter-terrorism, counter/de-radicalization and disengagement (Dalgaard-Nielsen 2018; Windisch et al. 2017), lone-wolf terrorism (Spaaij and Hamm 2015), geography of terrorism (Farrell et al. 2019), cyber-terrorism (Duco et al. 2016), and foreign fighters (Hegghammer 2010).
ogy, specifically with respect to the selection of inclusion criteria. In the third section, we present the results from our systematic review of the quantitative literature on radicalization. We discuss the characteristics of the identified literature, including its quality and rigour, and identify the most commonly examined risk factors examined in this body of evidence.

A Review of Prior Reviews

While terrorism research has been conducted by academics since the 1960’s, it never really developed into an independent field of science. Rather, scholars and researchers from a wide array of fields have at times contributed to the study of terrorism. Over the years, terrorism research has gone through waves of popularity across different disciplines, including but not limited to, political science, sociology, psychology, and history (Reid 1997). In more recent years, scholars from fields such as psychology and criminology have increasingly devoted their attention to terrorism research (Neumann and Kleinmann 2013; LaFree and Freilich 2016; Kruglanski et al. 2009). It may even be the case that today, scholars from these disciplines dominate the field of terrorism research. Despite the multi-disciplinary attention that terrorism has received as a topic of research, and the large volume of publications produced in the wake of 9/11, reviews of the literature have consistently painted a bleak portrait of literature’s state.

The first review that sought to provide an overview of the state of the terrorism literature was conducted by Schmid and Jongman (1983) who identified that the terrorism literature was quite weak. A few years later they conducted an updated review in which they stated that there were probably few other fields where so much has been written on the basis of so little research (Schmid and Jongman 1988). Almost a decade later, Reid (1997) reviewed over 1100 items published between 1960 and 1990 and found that the research overwhelmingly tended to examine small insurgent groups. She also found that many studies simply re-categorized or re-analyzed the same data or sets of terrorism incidents that prior studies had used.

Starting in 2001, Andrew Silke began to publish the first of several reviews of the terrorism literature. Following Silke’s findings from 2001 he found that there was little notable change in the quality and trajectory of the literature since Schmid and Jongman. In 2004, Silke found that only 3% of terrorism related studies used inferential statistics and only 15% used some form of descriptive statistics. In 2008 he found more positive developments, with an increased use of descriptive and inferential statistics in publications which had grown exponentially since 2001. However, he makes a caveat that compared to other fields the findings are still quite poor, and only in 2001 was Andrew Silke’s review published. Silke has since published a number of reviews, every few years. In his 2007 review examining whether the post 9/11 period had impacted the quality of the research.

While these reviews provided important overviews of the literature, they still were unable to deal with synthesizing the evidence. As Ranstorp (2006) noted, “the
relative absence of any reflective state-of-the-art reviews of what the field has achieved” (p.3), represents a gap in the current knowledge. However, starting with Lum et al. (2006) systematic review of the effectiveness of counter-terrorism strategies, a few systematic reviews have been published over the years. Unfortunately, with the exception of this review, which also found a very small proportion of the literature to be empirically based, let alone quantitative, most studies can only be characterized as being narrative reviews. While this could simply a reflection of the nature of the literatures being examined, it may also be related to the methodologies used by the reviewers, especially related to the development of research questions.

Taking a broad approach to the development of systematic review research questions has been a characteristic of reviews related to radicalization. For example, Christmann (2012) examined the topic of Preventing religious radicalization and violent extremism. In the section on individual risk factors (pp. 31–34), the author is only able to provide a narrative review of the evidence contained in the two dozen or so studies included in this part of the review. The author notes the inconsistencies and great heterogeneity identified in the studies. The author does stress two important points here however. First, that no single factor can or will explain radicalization, rather, it is the combined and cumulative effect of risk factors that increases the likelihood of radicalization. Secondly, risk factors are most relevant to creating the initial openings to radicalization which increase the likelihood than an individual will come into contact with other radicalizing agents. These radicalizing agents he believes, become more important in the subsequent stages of radicalization leading to violent extremism.

This view is shared by the authors of another review on the same topic which was carried out on behalf of the International Centre for the Prevention of Crime (ICPC) by Madriaza and Ponsot (2015). Entitled “Preventing radicalization: A systematic review”, the authors explain that the main idea behind the prevention of radicalization is that: “the social prevention of radicalization aims to limit the development of risk factors and strengthen factors that protect against such a process.” (p. 8). The review includes 483 items but little information is given as to how they were selected. The authors note that their inclusion criteria limited itself to items published between 1 January 2005 and 1 June 2015 in either English or French. However, certain items which the authors considered to be of great importance and which fell outside of these criteria (e.g. Sageman 2004) were included. The authors state that they used the following working definition of radicalization to lead their inclusion criteria: “radicalization leading to violence”: [translation] “the process whereby an individual or group adopts a violent form of action, directly related to a politically, socially or religiously motivated extremist ideology that challenges the established political, social or cultural order” (Khosrokhavar 2014, pp. 8–9). However, it is not clear if this means that only studies whose dependent variables met this definition were included or if it was used more broadly as criteria for inclusion by topic.

In section “A Review of Prior Reviews” of this review (pp. 27–44), the authors delve into the factors of radicalization identified. While Internet use, propaganda,
and prison radicalization are discussed in isolation, the remaining 32 factors are split up into vote-counting matrices where they are divided between Islamic and right-wing radicalization and coded as either having consensus support or being characterized by either insufficient or contradictory evidence. The first matrix lists 14 individual-level factors: Socioeconomic level, Employment, Education, Criminal behaviour, Personal crisis, Age (being young), Gender (men), Negative experiences, Military training, National identity (exclusion and xenophobia), Nationals/immigrants, Search for identity, Religion, and Mental health. Another 7 factors are presented in a separate matrix on relational/group based factors: Internal group cohesion, Family, Charismatic leaders, Relationship with other adults, Personal networks, Resources, and Intergenerational transmission of radical ideas. Another 3 factors are examined as community related factors: Isolated community, Cultural conflicts, and Radicalization subculture. Lastly, 8 factors are listed under the heading of ‘macro and exo-systemic factors’: Traditional gender identity, Weak or unstable nations, Fast-paced modernization, Other macro-political factors, Cultural heterogeneity, Social integration, Conflicts in Muslim countries, Authoritarian societies. For the Islamic group, half of the factors were found to be characterized by insufficient or contradictory evidence, and 65% for right-wing radicalization.

Another review by McGilloway et al. (2015) set out to identify and synthesize empirical studies only. This review included 17 papers, the majority of which were qualitative (N = 13). The review identified a limited number of factors: Identity, deprived neighborhood, discriminatory counter-radicalization polices (integration and socio-economic approaches), socio-economic status, gender, age, citizenship, convert to Islam, mental health, stressful life events, social contacts, racial discrimination, grievances over foreign policy, ideology, in-group superiority/criticism. Among these 15 factors, the evidence was presented as being quite mixed. The authors summarize that the only consistent finding was that young, relatively well integrated males are at the greatest risk for radicalization. Overall, the authors remind us that: “Many theories are available, yet empirical research is lacking” (p.49).

Another review, published under the auspices of the UK’s Home Office, and carried out by Munton et al. (2011), was a scoping review on Understanding vulnerability and resilience in individuals to the influence of Al Qaida violent extremism. One of the advantages of this review’s approach is that it’s title indicates that it is examining a very specific research question, which is what systematic reviews ought to do. Unfortunately, the review digresses somewhat from its focus, examining as a secondary research question, “What factors enable vulnerable individuals to resist the influence of AQ-influenced violent extremism?”. While this is certainly related to the primary research question, it can be seen as a different topic. Following this, the review includes secondary findings from another review on “other types of violent activity“. While the focus on “other (non-AQ-influenced) types of terror activity” is still closely related to the topic and outcome of interest, it also includes more distantly related phenomena such as; animal rights activism, cults, gangs, and youth crime. That the review finds a lack of empirical evidence, and acknowledges the difficulties in synthesizing the findings, may have been impacted by other meth-
odological decisions, such as the review’s inclusion of disparate contexts, from Western countries to Chechniya and Palestinian terrorists. The primary review consisted of 39 included studies using a variety of methodologies: controlled trials (N = 2), interviews (N = 15), survey interview (N = 5), observational study (N = 1), and secondary analysis of autobiographies or biographies, extremist pamphlets and other communications (N = 16). The authors categorized the factors identified in these studies into 13 categories, some of which covered multiple factors (e.g. age, sex and marital status were grouped together), while others examined individual factors (e.g. religious beliefs). The limited number of factors identified in this review provided little innovation or new knowledge.

Focusing on the “subfield of research” of the ‘root causes’ of non-suicide terrorism, Campana and Lapointe’s (2012) review included 48 studies published between 2000 and 2009. While this review also appeared to have a more focussed scope and research question, the researchers identified that the included studies could be divided into four categories based on their dependent variables: (1) the number of terrorist attacks in a country (or countries), (2) the number of foreign/transnational terrorist attacks, (3) the number of terrorist groups operating in a country (or countries), and (4) structural factors explaining individual participation in terrorism groups. Due to the difficulties in classifying and categorizing the independent variables, the researchers used a vote counting method to arrange the factors across these four outcomes. With respect to the fourth dependent variable, and relevant to the study of risk factors of radicalization, the researchers found evidence for: political freedom, civil liberties, state repression, macro socio-economic conditions, macro-economic inequalities, individual poverty, individual-level education. However, as reflected by the first three constructs of these dependent variables, little can be learned about radicalization from them. Also, as the researchers bemoan, the disparate nature of these dependent variables leads to an inability to synthesize the evidence in a more coherent or useful way. Even this study, which presented a much more focussed research question than the others mentioned above, suffered from the lack of well defined inclusion criteria regarding which outcomes of interest it would be limited to.

With regards to radicalization, while there are certainly many different conceptions of what it constitutes (Neumann and Kleinmann 2013), comparing ‘apples and oranges’ is problematic in systematic review research. While this term generally refers more to the quality of studies included in a meta-analysis, it is also important that any systematic review limits itself to examining the same outcome or dependent variable. In all of the above noted examples, the lack of a well-defined and narrow inclusion criteria regarding the outcome of interest led to the comparing of studies whose dependent variables were starkly different. For example, the review included and compared studies which assessed radicalization based on ‘support for terrorism’ (Tausch et al. 2009), ‘opposition to the West’ (McCauley 2012), and Muslims perceptions of the ‘war on terrorism’ (McCauley and Scheckter 2008). While acknowledging the pitfalls of a broad research question and inclusion criteria, Christmann (2012) takes such an approach anyhow. In taking such an approach,
these studies fall short of systematic review standards, which include the need of asking focused, specific questions, and developing narrow and limiting inclusion criteria. Sometimes taking a broader approach and trying to include everything leads to us knowing less. As Schmid and Jongman (1988) noted three decades ago, terrorism research exceeds every other field in having so much written about the topic on the basis of such little empiricism.

Limiting Inclusion Criteria in Radicalization Research

Synthesis

While achieving definitional consensus ought to be an objective of the field of radicalization research, it is not necessary to reach such a consensus in order to move the field forward (Neumann and Kleinmann 2013). Individual studies each choose their own operational definitions and the results of these studies either support or detract from the validity of the conceptualization and operationalization. While there is wide ranging support for the notion that ‘support for terrorism’ is an outcome which represents radicalization well, other outcomes, even if framed as proxies for radicalization, seem more distantly related, even if they satisfy some definitions of radicalization, radicalism, and extremism.

For example, Sedgwick’s (2010) conception of radicalization includes the opposition to western, democratic values, which follows early conceptions of political radicalism as developed in the field of political science and the study of social movements. As such, studies who frame their analyses of radicalization by exploring opposition to the West (McCauley 2012) may satisfy this definition of radicalization. However, other proxies for this approach to radicalization, such as voting for populist parties, and authoritarian personality are arguably more problematic and more difficult to justify. As Mudde (2004) has previously explained, the suggestion that populist parties or their voters oppose western or democratic values is highly subjective. In fact, these parties and their supporters often run on platforms in which they claim to be the vanguards of such values. With respect to the use of right-wing authoritarian personality (RWA) or fundamentalism as proxies for radicalism, Koopmans (2015) believes that these make for poor proxies since they lack reference to the actual use of violence. Moreover, these personality traits are not “negative” in the same way that the type of radicalization we are usually referring to is. While these personality traits may be risk factors for radicalization, they are not good proxies for it (Stankov et al. 2018; McCleary et al. 2011; Koopmans 2015).

While examining conceptions of radicalization such as opposition to democracy are certainly an important part of the conversation on radicalization, at its core, radicalization is the process of the development of the ideas, beliefs, or opinions which could lead to acts of radical violence, including terrorism (Neumann and Kleinmann 2013; EU 2014). But what types of beliefs should we be focusing on remain ill-defined. As Christmann (2012) notes in his systematic
review, “Where the research question is broad-ranging or where the key terms are vague or ill-defined, the ability of a systematic review to produce a convincing answer is reduced”. Since “the ‘process of radicalisation’ remains ill-defined”, it is difficult to collate, summarize, and synthesize the evidence according to established standards of systematic reviews.

While radicalization may be ill-defined, social-psychological theories that examine the attitudinal or cognitive antecedents of behaviors tell us that the level of specificity is what determines which attitudes should be used as proxies for the outcome of interest. On this basis, Moskalenko and McCauley (2009) cite the Theory of Planned Behavior model in their work that developed into the Two-Pyramid of Radicalization’s cognitive radicalization outcomes (McCauley and Moskalenko 2017). The Theory of Planned Behavior model is based on (1) attitudes, (2) intentions, and (3) behaviors. According to the model, attitudes lead to intentions which in turn lead to behaviors. However, in order for an attitude to have satisfactory level of predictive quality, it must meet a high level of specificity with reference to the behavioral outcome of interest. Indeed, the Two-Pyramid Model’s cognitive radicalization outcomes are: Support for terrorism, justification of terrorism, and a belief in a personal moral obligation to participate in terrorism. The first two outcomes are attitudinal antecedents closely related to the behavioral outcome of interest, whereas the third is the intentional dimension.

As has been pointed out in the literature, radical attitudes rarely lead to radical behaviors. A very small minority of individuals who hold radical attitudes will ever turn to violence. In addition, there are cases of terrorists who were not overly radicalized. Failing to be able to explain these two observations has been a primary criticism of popular radicalization models and theories. However, when extending the Theory of Planned Behavior to criminal behaviors, Beck and Ajzen (1991) explain that the cumulative and interactive weight of risk factors are what determine when attitudes will translate into behaviors. The absence of risk factors, or the presence of protective factors, explains why many with favorable attitudes, or even expressed intentions, will never engage in the undesirable behavior. Criminologists have already found good evidence to support this theory in analyzing how and when criminal attitudes predict criminal behaviors (Folk et al. 2018).

As such, this framework fits exceptionally well into the study of risk factors for cognitive and behavioral outcomes of radicalization. For the purposes of this review, we limit our focus to studies that achieve a satisfactory level of specificity and examine cognitive radicalization by assessing support for or justification of violent extremism (attitudes), intentions to engage in violent extremism (intentions), or actual involvement in violent extremism (behaviors). By limiting our inclusion criteria, we are not trying to create a situation in which we impose our chosen definitions on others, or by which we seek to ignore or underplay the existence of additional, alternative, or event competing frameworks. Rather, we seek to achieve the highest level of specificity and thereby enable the collation of studies that are measuring the same thing, which enables a synthesis of the same.
The Current Study

As noted above, previous studies’ decisions to include all research, or to include even all types of empirical research, represent a methodological limitation that has hindered their ability to identify and synthesize the evidence, as reflected in authors’ own statements and their results. Moreover, whereas previous reviews have generally been interested in radicalization in western countries, they include studies from non-western countries. While studies from non-western countries can certainly provide important insights, the mixing of studies from such varied contexts is invariably a source of the heterogeneity that these prior reviews have identified. In this study we limit our scope to the identification and synthesis of quantitative studies that examine ‘risk factors’ (or predictors) of a well defined and highly specific conception of radicalization. We further limit our inclusion to only those studies whose populations and contexts are in democratic, high-income countries since low and high income countries are known to differ significantly and combining them introduces an additional level of heterogeneity. There is therefore good methodological reason for systematic reviews to examine either high or low income countries separately (Shenderovich et al. 2016; Higginson et al. 2014, 2018; Murray et al. 2018).

This review therefore set out to assess the quality of this literature and identify which factors have been examined using rigorous quantitative methods. As described in the above literature review, while qualitative research is certainly important, it has widely been surveyed and reviewed. While some reviews have focussed exclusively on empirical studies, no study has focussed exclusively on the quantitative literature. This review sought to include studies which employed appropriate statistical methods for isolating the effects of individual predictors that are associated with an increased likelihood or risk that someone will either adhere to radical attitudes (cognitive radicalization), and/or engage in radical behaviors (behavioral radicalization).2 The inclusion and exclusion criteria were pre-determined in a review protocol that was registered with the Campbell Collaboration and which included parameters pertaining to each component of a study: population/ measurement of outcome (dependent variable), outcomes, context of the study, and research design (sample size, analytic strategy, level of analysis).

The first set of criteria applied to assessing whether studies met the inclusion criteria related to the population of interest; individuals with radical attitudes, radical intentions, or radical behaviors. In order to identify risk factors for radical behaviors, a sample of non-violent radicals (LaFree and Freilich 2016), or the non-violent general population is needed to serve as a suitable comparison group (Berrebi 2007; Krueger 2008). Accordingly, for radical attitudes, a comparison group made up of those without radical attitudes was needed (McCauley and Moskalenko 2017; Moskalenko and McCauley 2009) in order to provide the type of variation on the dependent variable which is needed in observational studies (Higginson et al. 2014).

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2 A description of the methods used in the included studies is provided below.
The second set of criteria pertained primarily to ensuring that the dependent variable met the inclusion criteria and assessed on one of the three dependent variables of interest: (1) Justification/support of radical violence, (2) Personal moral obligation/willingness/intentions towards radical violence, (3) Involvement in radical violence (including terrorism). As such, studies falling outside of this scope, such as comparative studies of terrorist offenders with ordinary criminal offenders (e.g. Lyons and Harbinson 1986; Liem et al. 2018), or different types of terrorists, such as religious and right-wing (e.g. Smith and Morgan 1994) were excluded. Additionally, studies examining macro-level predictors of terrorism events, number of terrorism groups, or recruitment flows were excluded on this basis as well.

Context: Separating Between Democratic and Non-democratic Countries

Systematic reviews often separate between limit their focus to specific types of countries. Differences in political, social, economic and cultural contexts, which are known to effect factors of radicalization (Brockhoff et al. 2015; Zhirkov et al. 2014; Enders and Hoover 2012), mean that there is good methodological justification for focusing on particular types of countries (Shenderovich et al. 2016; Higginson et al. 2014; Murray et al. 2018). Since there is no established preference as to whether reviews should separate by income or regime type, this review bridged both approaches by limiting inclusion to democratic countries who are also OECD countries. As such, the Democracy Index was cross matched with the OECD countries, resulting in the inclusion of all of the 36 OECD countries with the only exclusion being Turkey.

Research Designs

Systematic reviews usually aspire to include mostly experimental or quasi-experimental studies, in order to synthesis findings from the top of the hierarchy of evidence. Given that the literature is known to be bereft of randomized control trials (Laycock 2012; Victoroff 2005), the review sought to include only high-quality cross-sectional studies, and the rare longitudinal study or quasi-experiment. When dealing with literatures of primarily observational studies, inclusion criteria need to be adjusted in order to avoid to ensure the rigor of included studies and avoid combining high and low quality studies, thereby biasing results (Shenderovich et al. 2016; Murray et al. 2018). As such, inclusion was limited to cross-sectional studies which included: (1) samples >N = 50, and (2) employed appropriate statistical analysis and controls; such as calculating either bivariate or multivariate correlations (e.g. Pearson’s r or regression coefficients). For longitudinal and experimental or
quasi-experimental studies, smaller samples would be considered for where they met the other criteria.

**Outcomes**

While this review focuses on studies examining individual-level risk factors, in order to avoid bias, we excluded references to putative factors from the searches (e.g. education, employment, collective relative deprivation etc.). This decision was made to ensure that no pre-determinations would be made as to what the risk factors of radicalization are, particularly those which are known to be popular in the literature, thereby allowing us to answer our first primary research question without bias (Hammerstrøm et al. 2009; Shenderovich et al. 2016).

**Search Strategy**

After conducting multiple pilot searches and consulting with librarians and academics with expertise in systematic searches in social and behavioral sciences, the final search terms, search strings, and databases were selected. Searches were performed on: The Campbell Collaboration library, ISI Science, PsychINFO, PubMed, SSRN, SCO, Sociological Abstracts, Bibsys, START and journals such as Journal of de-radicalization, and Perspectives on Terrorism. Additionally, we contacted a number of experts from the US, EU and Israel to seek out unpublished studies and limit the effects of publication bias (Higgins and Green 2011).

**Results**

Our searches resulted in the retrieval of 10,449 items. After removal of duplicates we were left with 7892 original items which were screened based on their titles and abstracts. A total of 7487 items were deemed to not meet the inclusion criteria, primarily based on their topic evidently being outside the scope of the review. The remaining 405 items went through a secondary screening which included a closer reading of the paper’s methodology sections. This screening led to the removal of 253 items, again primarily based on the topic being outside the scope of the review. The remaining 152 items were read in their entirety by the senior researchers who identified 50 studies that met all of the pre-determined inclusion criteria. In addition,

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3While most non-English studies are indexed in English, supplementary searches were also conducted in German and Dutch. General searches were also conducted on the Google scholar and search engine to try and identify grey literature.
our project partners and other experts who we contacted provided additional studies, 3 of which met the inclusion criteria. As such the final inclusion consisted of 53 studies.

**Publications by Year**

The results of the systematic searches identified a relatively large number of studies that met the inclusion criteria. Overall, the studies were published between 2007 and 2018, with the largest number of studies (N = 10) being published in 2016. Only one year—2008—had a single publication. The trend in publications shows a clear uptick in recent years. While 2017 had fewer studies (N = 7) than 2016, and only
N = 6 studies were identified for 2018, it is possible that late 2018 publications, some of which may not appear until 2019, will lead to an increased number (Fig. 2).

Some of the studies (N = 6) contain more than one individual study and as such the total number of studies included from the 53 publications is 59.

The overall majority of the studies were found to have been published in English although 4 German, 4 Dutch and 1 Spanish language study were identified as meeting the inclusion criteria. Of the German studies, two of them were written by the same primary author (Dirk Baier). Among the Dutch studies, one study (Van den Bos et al. 2009) used the same dataset that the same group of scholars would use in a number of later English Publications (Doosje et al. 2012, 2013; Macdougall et al. 2018).

**Context**

The majority of the studies focused on a European context. Of these studies, 33 focused on a specific country, whereas 4 focused on more than one country. The EU country with the largest number of studies was the Netherlands which had 9 studies. The second largest number of studies by country was for the UK which had 8 studies. Another 6 studies focused on Belgium, however these studies were all based on the same original dataset. Another 4 studies focused on Germany, each employing unique datasets. Another 2 studies focused on Poland, while Denmark, Spain, Norway, and Switzerland were the focus of single studies each. Of the studies focusing on multiple countries, one study included all countries in the European Values Survey (Fig. 3).

The next largest group of studies was from the US, with 9 studies. Another 2 studies focused on Israel, while 1 study was focused on Australia and another on Canada. Two additional studies included samples from more than one region. One of these included a sample of terrorists from multiple democratic countries, primarily from the EU and the US.
Populations

The largest proportion of the studies examined radical Islamic ideology as the focus of the study (N = 30). However, a large number of studies (N = 17) examined mixed samples (e.g. Muslim and non-Muslim, or RWE and Islamic, or mixed with no distinction). Another N = 7 studies examine RWE explicitly. One publication included separate studies in which 1 examined single-issue separatist radicalization and this is included among the 17 mixed studies (Fig. 4).

Authorship

The overwhelming majority of the studies identified had more than one author, with only 9 studies having been published by a lone author. Among the studies published by single authors, one was a thesis paper and another was a research paper. Among the studies published by multiple authors, 31 displayed inter-institution cooperation, whereas 12 studies were published by authors from the same institution.

In terms of the fields from which authorship was derived, based on the primary authorship the most frequent field was psychology, which had 14 studies. Among these studies, 3 of them came from departments which were identified as being...
political psychology departments specifically. There were an additional 4 studies from psychiatry. Among the remaining studies, 10 were from the field of criminology, and there were an additional two studies from departments listed as social-work/criminology departments. A further 6 studies came from political science, 3 from economics. There were a total of 5 studies from sociology, one of which was from sociology/economics. Another two studies were from authors from the field of education, one of which being from a social sciences and education department, and a further two studies from social-sciences. There were also two studies from the field of public health. Lastly, there was a single study from a social-sciences/terrorism department, a single study from law, and another single study from communications (Fig. 5).

**Dependent Variable**

Overall, the majority of the studies examined cognitive radicalization in the form of attitudes. Only 2 studies examined radical intentions as their sole dependent, while another 10 studies examined radical intentions as a co-dependent variable with radical attitudes. Whilst some studies used more established instruments, such as the Activism-Radicalism-Intentions-Scales (ARIS), or SyFor, the majority of studies used dichotomous variables assessing support or justification for terrorism, specific types of terrorism (e.g. suicide bombings), or radical violence⁴ (See Fig. 6).

Among the 12 studies that examined radical behaviors, 5 were based on self-reports of radical behaviors which can be characterized only as sub-terroristic radi-

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⁴Radical violence differed from justification of terrorism in that most studies referred to the use of illegal violence to cause political or social change, or the use of illegal violence and actions to protest government policies.
cal violence, whereas the remainder examined terrorist radical behaviors. Of these studies, 3 compared violent terrorists with non-violent terrorists, whereas 4 compared terrorists with a sample of the normative, general population.

**Data Sources**

A total of 74% of the included studies used original data, primarily derived from surveys. Secondary data was used by 3 of these studies only for the purposes of providing a comparison groups. Of the 12 studies that employed exclusively secondary data, 41% of them (N = 5) included data from different versions of the PEW reports. Other secondary data sources included the European Values Surveys, of which different sets were used in 2 studies, and the PIRUS database of US based extremist offenders which was used in 2 studies. The remaining 3 studies used secondary data which was hereto unknown to the radicalization literature, namely; The Zurich Project on the Social Development of Children and Youth survey, the Young in Oslo survey, and the Ethnic Minority British Election Study (EMBES).
Methodologies

The average sample size for the studies was 3105.7, with the smallest sample being from a longitudinal study with an N = 46 and the largest sample being from the study of Berrebi (2007) comparing Palestinian terrorists to the general population, with an N of 41,828. The combined N of the studies was 179,968, however, in removing overlapping samples, the combined N was 172,727. Of studies examining radical attitudes and intentions, the average sample size was 1843. For studies examining radical behaviors, the average sample size was 5310 including the Berrebi (2007) study and 2876 without.

The studies could be categorized as having used one of two primary methodologies; regression models and structural equation modelling (SEM). While SEM is a type of two-stage regression model, the technique is distinct from traditional linear models. With regards to the studies employing traditional regression models, a mix of different approaches were taken, such as ordinary least square regressions, and logistic regression, including traditional binomial models, as well as PROBIT models. The majority of the studies (85%) also provided bivariate estimates in the form of correlation matrices and descriptive statistics.

Most Commonly Examined Factors

The most commonly examined factors were for the outcome of radical attitudes, for which there were 52 factors, followed by radical behaviors, with 21 factors, and radical intentions with 16 factors. With few exceptions, the factors identified for radical intentions and radical behaviors were all included in the longer list of those identified for radical attitudes. The primary difference was that radical attitudes itself was a factor for radical intentions and behaviors as well. Table 1 includes descriptions of the different factors identified.5

The most commonly examined factors were socio-demographic factors, with age (N = 33) and gender (N = 32), education (N = 27), and socio-economic status (N = 17)6 including the greatest number of effect sizes. Of all other factors, the greatest number of effects were found for factors pertaining religious/national identity (N = 21), collective relative deprivation (N = 19), and combined, factors pertaining to law legitimacy and abidance.

5Not included in this table are socio-demographic factors that do not require descriptions, such as; age, gender, education, employment, socio-economic status, immigrant status, marital status, and criminal history.
6Effect sizes for socio-economic status were found only for radical attitudes.
Table 1  Descriptions of identified factors

<table>
<thead>
<tr>
<th>Factors</th>
<th>Example descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted personality disorder</td>
<td>DSM-IV personality disorders, Narcissistic Personality Inventory</td>
</tr>
<tr>
<td>(APD)</td>
<td></td>
</tr>
<tr>
<td>Aggression</td>
<td>Buss-Perry Aggression Questionnaire (BPAQ-SF)</td>
</tr>
<tr>
<td>Anger/hate</td>
<td>Angry, resentful, furious, or displeased with a given issue or situation</td>
</tr>
<tr>
<td>Anxiety</td>
<td>General Anxiety Disorder Scale (GAD-7), Hopkins-25 scale (HSCL-25)</td>
</tr>
<tr>
<td>Authoritarianism/</td>
<td>Submission to higher authority, aggression to out-groups, and adherence to traditionalism</td>
</tr>
<tr>
<td>fundamentalism</td>
<td></td>
</tr>
<tr>
<td>Collective relative deprivation</td>
<td>Feeling that in-group is deprived or discriminated against relative to other groups</td>
</tr>
<tr>
<td>Coping skills</td>
<td>Ability to cope with conflict and negative encounters/situations</td>
</tr>
<tr>
<td>Depression</td>
<td>Patient Health Questionnaire (PHQ-9), Hopkins-25 scale (HSCL-25),</td>
</tr>
<tr>
<td>Discrimination</td>
<td>Experienced personal discrimination based on identity</td>
</tr>
<tr>
<td>Experienced violence</td>
<td>Perpetrated or was a victim of violence involving strangers, bullies, or parents</td>
</tr>
<tr>
<td>Group superiority</td>
<td>Believing that one’s in-group is better than other groups</td>
</tr>
<tr>
<td>Individual relative deprivation</td>
<td>Feeling unfairly treated compared to others</td>
</tr>
<tr>
<td>Institutional trust</td>
<td>Confidence in institutions (e.g. police, parliament, courts, social services etc.)</td>
</tr>
<tr>
<td>Integration</td>
<td>Attachment to/alienation from the society in which one lives</td>
</tr>
<tr>
<td>Law abidance</td>
<td>There is a duty to follow and abide by the law</td>
</tr>
<tr>
<td>Law legitimacy</td>
<td>Respect for the government/law/authorities</td>
</tr>
<tr>
<td>Legal cynicism</td>
<td>Believing that laws are made to be broken</td>
</tr>
<tr>
<td>Moral neutralizations</td>
<td>Justifications of deviant behaviors (e.g. drugs, violence etc.)</td>
</tr>
<tr>
<td>Parental involvement</td>
<td>Parents show interest, praise, and are aware of children’s’ whereabouts</td>
</tr>
<tr>
<td>Perceived injustice</td>
<td>Feeling that the individual or group is treated unjustly most of the time</td>
</tr>
<tr>
<td>Personal strain</td>
<td>Loss of parents, loss of work, experienced traumatic event etc.</td>
</tr>
<tr>
<td>Personal trust</td>
<td>Believing that most people can be trusted</td>
</tr>
<tr>
<td>Police contact</td>
<td>Number of contacts respondents had with police in the previous 12-month period</td>
</tr>
<tr>
<td>Political efficacy</td>
<td>Having influence or being represented in the political sphere</td>
</tr>
<tr>
<td>Political grievance</td>
<td>Opposition to foreign intervention in the Middle East</td>
</tr>
<tr>
<td>Political participation</td>
<td>Participation in political party, organization, completing surveys, petitions etc.</td>
</tr>
<tr>
<td>Political satisfaction</td>
<td>Satisfaction with current system of government</td>
</tr>
<tr>
<td>Radical attitudes</td>
<td>Support for or justification of radical violence</td>
</tr>
<tr>
<td>Realistic threat</td>
<td>Compared to in-group, an out-group has too much power and influence</td>
</tr>
<tr>
<td>Religious/national identity</td>
<td>Strength of identity/affinity with religious/national group</td>
</tr>
<tr>
<td>Religiosity</td>
<td>Importance of religion in daily life and activities</td>
</tr>
</tbody>
</table>

(continued)
Results from Meta-analysis

The results of a meta-analysis conducted in this study have already been published in a technical report. As the below forest plots show, a wide range of pooled effect sizes were identified for the factors associated with each of the three outcomes. With regards to radical attitudes, the largest negative estimate was found for law abidance. For positive factors the largest estimate was highly similar peers, although with the estimate falling below the level of statistical significance, the largest significant estimate was for authoritarian/fundamentalist personality. On the other hand, the smallest, and sometimes statistically non-significant effects were found for socio-demographic factors, such as socio-economic status (negative effects), and being a second generation immigrant (positive effects) (See Figs. 7 and 8).

With regards to radical intentions, age had the largest of the negative estimates, considerably larger than for radical attitudes, followed by out-group friendships. For positive estimates, the largest was for correlation between radical attitudes and radical intentions, followed by activism intentions (See Fig. 9). However, for both radical attitudes and radical intentions, similar factors were found to have estimates that clustered together at the upper end of the rank-order, such as symbolic and realistic threat. Additionally, the relatively large estimates found for in-group superiority and connectedness can be juxtaposed with the negative estimate for out-group friendships as an indication of the relative magnitudes of these related risk and protective factors.

Similarly, for radical behaviors, the largest negative estimates were similar to those for radical attitudes, namely law obedience and legitimacy. With regards to positive effects, the largest estimate was found for radical attitudes, as was the case for the outcome of radical intentions. Additionally, similar to factors identified for

Table 1 (continued)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Example descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>School bonding</td>
<td>Enjoying going to school and/or studying, feeling an attachment to school</td>
</tr>
<tr>
<td>Segregationist</td>
<td>Separation of people by ethnic group</td>
</tr>
<tr>
<td>Self-control</td>
<td>Impulsivity, quick to anger</td>
</tr>
<tr>
<td>Similar peers</td>
<td>Proportion of friends of similar background</td>
</tr>
<tr>
<td>Symbolic threat</td>
<td>Out-groups consider themselves to be better than my in-group</td>
</tr>
<tr>
<td>Thrill-seeking/risk-taking</td>
<td>Taking risks just for fun of it, without thinking of consequences, even if dangerous</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>Anxiety or anticipation prior to confronting potentially harmful events</td>
</tr>
<tr>
<td>West Vs. Islam</td>
<td>The West is trying to attack/dominate Islam/Islamic countries</td>
</tr>
</tbody>
</table>

*These are general descriptions that we have created based on the different descriptions given in the included studies. Factors are arranged in alphabetical order

1 The technical report is available on the PROTON website https://www.projectproton.eu.
radical attitudes, for radical behaviors factors such as thrill-seeking/risk-taking behavior, differential associations, low self-control, criminal history, and authoritarian/ fundamentalist personality figured prominently at the upper-end of the rank-order of positive estimates. The key difference between radical attitudes and radical behaviors appears to be unemployment. The estimate for unemployment on radical behaviors was almost triple the size as the estimate for radical attitudes (See Fig. 10).

**Discussion and Conclusions**

According to the findings of Schuurman’s (2018) review, 7.1% of terrorism studies employ some form of inferential statistics. This finding indicated a significant uptick in the rigour of the quantitative literature compared to earlier reviews. Neumann and Kleinmann (2013), found that 20% of radicalization studies quantitative and rated
What Is the State of the Quantitative Literature on Risk Factors for Radicalization… 45

Fig. 8 Risk factors for radical attitudes
94% of these as being of high methodological rigor. Given that their study was made up of 260 studies, this would mean that 52 studies included in their review were quantitative. While Neumann and Kleinmann’s review was carried out prior to the publication of many of the studies included in our review, the similar number of included studies is intuitive. In focusing on radicalization studies on risk factors, the current review identified that the quantitative research on risk factors may account for a significant proportion of the quantitative radicalization research.

Most of the studies included in this review were of a fairly high quality in terms of their methodologies and analytic strategies. We didn’t assess quality specifically since our inclusion criteria already included provisions relating to appropriate statistical controls and sample size. As noted above, the studies included in this review can be divided into two primary groups of methodologies; regression models and SEM models. It is debatable as to whether SEM type approaches are to be considered more or less robust than traditional regression models. However, we found that SEM models were more likely to be employed in small sample studies, in which cases such an approach may be preferable. While studies employing SEM are less likely to include key control variables (e.g. age, gender, etc.), Pauwels and Hardyns (2018) present arguments against the routine inclusion of such variables in radicalization research. Indeed, in their study employing generalized linear models, they

Fig. 9 Risk and protective factors for radical intentions/willingness

- Age
- Outgroup friends (-.202***)
- Social Connectedness (-.43***)
- Perceived injustice (.213***)
- Ind. Rel. Dep. (.362*)
- Collect. Rel. Dep. (.427***)
- Relig/National identity (.499*)
- In-group connect. (.554***)
- Symbolic threat (.643 †)
- Realistic threat (.703**)
- Ingroup superiority (.805***)
- Radical beliefs (1.112***)
do not include these variables even though their dataset, as used in previous studies, included them. Nevertheless, most studies using regression models included such variables and in some studies these were the primary variables of interest, especially for studies examining risk factors for terrorists (Perliger et al. 2016; LaFree et al. 2018; Jasko et al. 2017; Berrebi 2007; Krueger 2008; Altunbas and Thornton 2011; Ljujic et al. 2020).

The overwhelming majority of the quantitative radicalization research that has been produced to date has come from Europe and/or focussed on European contexts. This could in part be due to the EU’s funding of projects. Of the European studies included in this review, at least 12 are known to have received funding from the EU. Sources of funding have long been noted to play an important role in directing the trajectories of terrorism research (Reid 1997; Neumann and Kleinmann 2013; Sageman 2014; Silke 2007).

Overall, the research is heavily geared towards examining cognitive radicalization in the form of radical attitudes. The most common approaches to examining
radical attitudes have been through the adoption of dichotomous variables examining whether or not one supports or justifies terrorism, usually with reference to suicide bombings or specific acts of terrorism. One of the findings that stands out most about this portion of the literature is that while a number of studies using secondary data, such as the Pew report, the overwhelming majority of studies are based on new, original data collected by the researchers. With regards to the studies examining radical intentions, all of them were based on new, original data. In all but one case, studies examining radical intentions included a measure of radical attitudes as well, generally in the form of assessing support for others’ involvement in radical violence or terrorism.

Background characteristics and demographic factors were found to be the most commonly examined risk factors, especially in studies examining terrorists specifically. However, as has previously been pointed out, with the exception of age and gender, factors such as employment and education are characterized by mixed and often contradictory evidence (Victoroff 2005). Stern (2016) has previously criticized the literature’s focus on such factors and its lack of attention to the types of psychological, personality trait and attitudinal factors traditionally examined in criminology. However, these types of factors figured prominently among the factors identified in this review for their relationship to radical attitudes, radical intentions, and even self-reported radical violence.

Madriaza and Ponsot’s (2015) review emphasized the importance of examining protective factors and found that most studies preferred to examine risk factors over protective factors. As Lösel et al. (2018) emphasize, protective factors are not simply the opposite or reverse of risk factors. For example, being employed is not necessarily a protective factor to the same degree to which being unemployed is a risk factor. Such factors would need to be measured separately in order to identify their individual effects. For example, while Doosje et al. (2012, 2013) examined societal disconnectededness as a risk factor, Van Bergen et al. (2015, 2016) examined societal connectedness as a protective factor. Only one of the studies included in this review were framed as analyses of protective factors specifically. Feddes et al. (2015) examined the impact of empathy and self-esteem building as protective factors against radical attitudes and radical intentions. However, a large number of the studies included protective factors explicitly in their analyses, or otherwise found protective effects of the independent variables which they analyzed. This included studies examining self-reported radical violence (e.g. Pauwels and Schils 2016; Baier et al. 2016).

The results of the meta-analysis should therefore be taken in such a context. For example, for radical attitudes, being a female had an estimate less than half of the size for being a male. Similarly, with regards to socio-economic status (SES), low SES had an estimate about half the size of high SES, although neither were statistically significant. With regards to education, the estimate for lower education was almost double the size of the estimate for higher education. Measured on an ordinal scale, the estimate for higher education was even smaller. Also for radical attitudes, while high law legitimacy’s estimate was quite similar in size to the risk effect for low legitimacy, the estimate for law abidance was considerably larger than the risk
effect for legal cynicism. For radical intentions, the estimate for in-group connectedness was considerably larger than for out-group friendships, while the estimate for employment was somewhat larger than unemployment and the estimate for high integration was considerably larger than that of low integration.

Taken together, these results show that traditional criminogenic and criminotrophic factors have the largest risk and protective estimates respectively. Factors such as differential associations, criminal history, and low self-control, as well as factors relating to social control dimensions, such as parental, peer and school bonds, and normative values, were found to have estimates with the largest magnitudes.

Overall, the results of this review indicate that the quantitative literature on risk factors for radicalization is a burgeoning field. Employing rigorous methodologies and increasingly producing results based off of original data, the literature is also moving towards the analysis of more psychological and personality trait related factors. The analysis of such factors, at present, has been limited to studies examining the two components of cognitive radicalization; attitudes and intentions. Unfortunately, there continues to be a lack of studies comparing those with radical attitudes to those who have exhibited radical behaviors. The majority of studies analyzing radical behaviors, either self-reports or terrorists, use the general, non-radical population as a control group. The lack of studies comparing violent and non-violent radicals represents a significant gap in the literature. Comparing these two groups would be the ideal way to identify which risk factors may explain the move from radical attitudes to radical behaviors. Studies with samples of confirmed terrorists may seek to utilize survey data from non-violent radicals in order to construct more useful comparison groups. Going forward, radicalization research should seek to further explore the relationship between radical attitudes, radical intentions and radical behaviors, ideally through the use of more longitudinal studies.

References


Resilience against Political and Religious Extremism, Radicalization, and Related Violence: A Systematic Review of Studies on Protective Factors

Friedrich Lösel, Doris Bender, Irina Jugl, and Sonja King

Introduction

Politically, religiously, ethnically, or otherwise motivated extremism, radicalization towards violence, and recruitment for terrorism are urgent topics worldwide. In spite of numerous activities to counteract these problems, there is still very limited knowledge about valid risk factors, potential causes, developmental processes, and effective interventions (Jensen et al. 2016; Monahan 2017; Sageman 2014; Silke 2001). This is insofar plausible as various problems complicate research and practice:

There is no widely accepted definition of ‘terrorism’ (Schmid 2004, 2012), and the terms ‘extremism’ or ‘radicalization’ are also used in different ways. In the present chapter, we use the following working definitions: Extremism implies a verbal or active opposition to basic values in a society, such as democracy, equality, liberty, rule of law, and tolerance for the faiths and beliefs of others. Radicalization is a process by which a person adopts beliefs that justify the use of violence for social and/or political change. Terrorism is viewed as an intentional act or threat of violence by a non-state actor that aims to attain a political, religious, economic, or social goal, and coerces or intimidates an audience beyond the direct victims (Doosje et al. 2016; Maskaliūnaitė 2015; Strom et al. 2017).

In empirical research, extremism and radicalization often refer to gradual differences in attitudes and behavior without clear thresholds of seriousness for violence (Bartlett and Miller 2012; Kruglanski et al. 2009). The main target groups are
heterogeneous and embrace far-right, far-left, religiously motivated, nationalist/separatist, or those who focus on single issues such as animal protection or environmental conservation (Doosje et al. 2016). However, the respective ideologies are not necessarily distinct. For example, religious, ethnic, and nationalist motivation may partially overlap (Doosje et al. 2016; Lösel et al. 2018) and show similarities in developmental pathways (Ebner 2017; Jensen et al. 2016). Not all members of specific extremist groups are mainly driven by the respective ideology (e.g., Sawyer and Hienz 2017) and underlying personality factors such as thrill-seeking may also play a role (e.g., Pauwels and Heylen 2017).

Although plausible phases of radicalization have been proposed, the sequences of individual needs, triggering events, ideological narratives, group affiliation, and social identity are neither uniform nor generally lead to violent action (Borum 2011; Jensen et al. 2016; Webber and Kruglanski 2017). Whereas most research shows that extremist group membership plays an important core role in radicalization, there are cases of ‘lone-actor’ terrorism that seem to be related to mental health problems or influences from the internet (Corner and Gill 2015; Meloy and Genzman 2016). This heterogeneity questions the aim of a general theory on the topic. The theoretical literature contains a range of explanations with concepts such as social identity, strain, social learning, rational choice, social movement, group dynamics, reactance formation, intolerance of ambiguity, mental health, and other psychosocial domains (e.g., Kruglanski et al. 2017; Raets 2017; Sageman 2017).

Methodological issues also contribute to the limited state of knowledge. Most research is based on cross-sectional data or retrospective case analyses, whereas sound prospective longitudinal designs are rare (Scarcella et al. 2016). Other methodological challenges are the very low base rates of the most serious cases, incomplete information in official data files, or cooperation and language barriers in the assessments of extremists. Although there are practical approaches to counteract terrorist plots (e.g., Perry et al. 2017; Strom et al. 2017), the low quality of many early prevention programs of radicalization is also a methodological problem (e.g., Armborst and Kober 2017; Beelmann 2017).

**Protective Factors and Resilience**

Sound knowledge on risk factors is a key for improving approaches to prevent extremism and radicalization. Risk factors are individual or social characteristics that predict an enhanced probability of outcomes like the onset of extremism, radicalization towards violent behavior, or (in rare cases) terrorist acts. Risk factors can be causes of the respective outcome, but basically, they only indicate a correlational relationship. Kraemer et al. (2005) distinguished between merely correlative risk factors, risk markers, and truly causal risk factors. Risk markers are variables that may indicate an influence on the outcome, but do not have a causal impact by themselves (e.g., male sex). A causal risk factor can be assumed when the change of the respective variable in a well-controlled intervention leads to a change in the outcome.
(e.g., abstaining or desistance). Although there are many publications on disengagement and de-radicalization (e.g., Berger 2016; Raets 2017), the methodological bases in this field do not yet allow clear causal conclusions.

The instruments for assessing risks for radicalization, extremism, and potential terrorism are based on theoretical assumptions and correlational research. Important instruments are, for example, VERA-2R, ERG 22+, TRAP-18, MLG, IVP, RAT, and RADAR-ItE (see King et al. 2017; Rettenberger 2016). While the contents of some instruments are openly accessible, other measures (particularly those used by the police or intelligence services) are not published for plausible reasons. Most risk assessment tools apply a structured clinical judgment approach. The respective constructs and variables of the different instruments are similar, but the concrete items vary depending on the developmental phase and context of the target group. For example, early developmental prediction in the community addresses different issues than risk assessment of radicalized inmates in prisons. When applied to the latter group, the various scales correlate significantly (King et al. 2018).

These instruments are promising, but partially due to the above mentioned methodological problems, the overall validity is still limited (Monahan 2017; Sarma 2017; Scarcella et al. 2016). Similar to other forms of violence, not single risk factors, but their accumulation is most indicative (Jensen et al. 2016). However, even when all known terrorists have a specific pattern of (mainly static) risk factors, the majority of people with these characteristics in the general population are not violent extremists. Accordingly, there is concern about many false positives that may be inappropriately stigmatized (Royal College of Psychiatrists 2016; Sarma 2017).

To reduce false positives, risk assessment should refer to potential protective factors. VERA-2 contains some protective items (Pressman and Flockton 2012), but overall, the topic requires more attention. Knowledge about protective factors is also necessary for a better understanding and theoretical explanation of radicalization processes. Doosje et al. (2016) rightly refer to ‘shields of resilience’ that interrupt the development from extremist orientation to membership in radical groups and to violent action. Similarly, the authors assume that protective factors contribute to de-radicalization and disengagement.

Resilience refers to phenomena such as healthy development despite a high-risk status, maintaining competence under specific stressors, or recuperating from severe trauma (Lösel and Bender 2003; Rutter 2012). These phenomena correspond to the elementary biosocial mechanisms of protection, regeneration, and repair. The processes of successful adaptation to and coping with developmental risk situations require individual and social resources that function as protective factors. These factors may ‘explain’ why individuals with similar risk profiles show different behavioral outcomes. Knowledge about protective factors cannot only reduce the rate of false positives in prediction, but help to design successful preventive approaches. There is much less research on protective factors against extremism and radicalization than on risk factors. This situation is similar to the broader literature on violence of young people (Lösel and Farrington 2012). Protective factors are often misunderstood as the other ‘side of the coin’ or the opposite pole of a quantitative risk factor. However, the analysis of protective factors and processes of
resilience requires more differentiated research methods (Lösel and Bender 2003, 2017). For example, one has to investigate curvilinear relations between quantitative variables of direct protective (promotive) factors and, in particular, study buffering effects in interaction analyses and hierarchical regressions when risk factors are present (Loeber and Farrington 2012; Lösel and Farrington 2012). For conceptual and methodological discussions of research on protective factors and resilience, see Luthar et al. (2000), Lösel and Bender (2003), or Masten (2016).

This article investigates factors that may strengthen resilience and have a protective function in the presence of risk factors for extremism and radicalization. We also address factors that may help to disengage and desist from extremist violence. We carried out a systematic review of empirical studies on these topics. Since a pilot search showed very few relevant studies on violent behavior as outcome, we also included research on violence-related extremist attitudes. In the following, we present the methodology of our systematic review and main results of both quantitative and qualitative analyses. Finally, we discuss the findings from an integrative perspective and address theoretical and practical implications as well as limitations.

Method

Eligibility of Studies

We included research on far right, far left, religiously motivated, nationalist/separatist, and special issue groups (Doosje et al. 2016). Protective factors were defined as characteristics that reduced the probability of radical violent acts, the willingness to use radical violence, or attitudes that support or justify violence. Studies examining broader underlying propensities (e.g., right-wing authoritarianism or social dominance) were not included. In accordance with research on resilience (e.g., Lösel and Bender 2017) and desistance from crime (Farrall et al. 2011; Shapland et al. 2012), we also included outcomes of de-radicalization and disengagement studies (e.g., Barrelle 2015; Bjørgo 2011). Both concepts are multidimensional and not generally defined (Clubb 2015; Raets 2017), but de-radicalization primarily refers to cognitive changes, whereas disengagement implies a behavioral change (i.e. desistance from violence or leaving a terrorist group).

There was no restriction regarding time and mode of publication of the primary studies. ‘Unpublished’ work such as dissertations or ‘grey’ literature was included. We focused on publications in English and German language, but did not get casual knowledge about empirical studies in other languages. All countries of origin regarding the local context of the research and the publication were eligible. There was also no restriction concerning the scientific discipline of authors and research institutions.

The main goal of the systematic review was to integrate empirical studies with quantitative results on protective factors against extremism and radicalization. The study design could be both cross-sectional and longitudinal. Beyond correlational
designs, we included intervention studies targeting extremism if they provided quantitative data on specified protective factors.

Since studies on de-radicalization and disengagement are usually case-oriented and mostly refer to individual experiences and narratives, we also included qualitative designs in our search. The opinions on quantitative versus qualitative methods are often polarized, but in research practice, there are meaningful and content-oriented combinations of both (Lösel 1985). The methodological standards of qualitative research are less elaborated and more homogeneous than those for quantitative and, in particular, experimental designs. Popay et al. (1998), Hammarberg et al. (2016), and other authors provided some guidelines for judging qualitative research. Accordingly, we requested that the qualitative studies must have sufficiently valid indicators of de-radicalization, provided descriptions of the respective method of data gathering, contained at least ten cases, and drew integrative conclusions about the investigated protective factors. To increase the data base, we also considered qualitative studies examining protective factors in not yet clearly radical individuals, provided they fulfilled the other above mentioned criteria. Because of the different contents and methods of the quantitative and qualitative studies, the results of both approaches will be reported separately. Our main focus lies on the more comprehensive quantitative research; we refer to the qualitative findings more briefly.

**Literature Search**

The results of meta-analyses and systematic reviews strongly depend on the search terms used in databases. In a pilot test of search terms, we used a rather general string, e.g., “protect* AND terroris*”. This led to an unmanageable number of mainly irrelevant results. We also tested a very narrow search string, e.g., “protective AND factor* AND terroris*”. This reduced the number of usable results too much. We thus created a few rather complex search strings including the terms right-wing, left-wing, islamis*, salafi*, radicali*, jihad*, extremis*, and terror* combined WITH protect*, buffer*, resilien*, factor*, disengag*, deradical*, moderat*, reject*, desist*.

Using these strings, we searched the following databases: Cochrane Library, Campbell Reviews, Dissertation Abstracts, MEDLINE, PubMed, EMBASE, ERIC, German National Library, PsycINFO, Psynindex, Science Direct, Scopus, Sociological Abstracts, Sociological Collection, and World Cat. After the elimination of duplicates, the final output resulted in 451 titles. The subsequent stepwise screening process reduced the number to only eight relevant quantitative reports. Such a low turnout from searches in databases is not rare in systematic reviews (e.g., Schmucker and Lösel 2011). Therefore, we also used contacts to experts in the field and screened relevant websites as well as the references of articles. This ‘snowball method’ revealed more than 2,000 documents. Most of them had to be excluded on the title level, some others on the abstract level. Further details of our search are presented in the PRISMA flow diagram in Fig. 1.
In total, we retrieved 24 documents that met our eligibility criteria. Seventeen reports provided quantitative data. Some of them contained more than one data set or separate analyses so that we could finally include 21 quantitative analyses. Seven studies had a qualitative design of which six contained direct data on radical individuals. In sum, 28 empirical analyses (“studies”) could be included in this review.

**Coding**

As Lipsey and Wilson (2001) recommended for reviews with small numbers of primary studies, we coded the content after a discussion and consensus of two members of our research team.

Main categories of our scheme can be seen in the comprehensive table in the Appendix. Most characteristics of the primary studies could be easily coded because they were simple facts (e.g., country of origin, publication type, sample size, and
age of participants). Some information was more complex, in particular with regard to the type and construct of the respective protective factors. In these cases, we avoided too extensive interpretations and adhered as much as possible to the categories reported by the primary study authors. In some studies, we had to be more interpretative, for example, when Baier et al. (2016) equated islamist extremism with hostility towards Germans. In this and other cases, the two coders discussed the issue and reached a consensus. In principle, the studies with qualitative designs were similarly coded as the quantitative research, but there were some differences. For example, the findings of qualitative studies were mainly based on interpretations of the authors and not on statistical tests. As the qualitative studies addressed processes of disengagement or de-radicalization, we also coded whether there was more a ‘push’ or a ‘pull’ influence (Altier et al. 2014; Bjørgo 2011).

**Descriptive Characteristics of the Dataset**

The main characteristics of the quantitative studies are shown in the Appendix. Eleven studies addressed religious/ethnic and five ones right-wing extremism and radicalization. The other types were less frequent. Most of the quantitative studies had a cross-sectional design. Four studies reported effects of an intervention with a pre-post-design without a control group.

Ten quantitative studies were carried out in Europe, three ones in the Middle East, two ones in North America, and one in Asia and Africa respectively. Most samples were young people below the age of 30. Six studies included school students or other groups in education. Two studies addressed convicted radical offenders. For further details of the participants of the studies, see Appendix.

Most quantitative analyses addressed both risk and protective factors, but this article refers to protective effects only. Twelve data analyses applied logistic regressions, four ones linear regressions, six ones LISREL or other path models, and two ones used a pre-post group comparison. Depending on the respective statistical analyses, the protective effects were identified by significant beta weights or path coefficients that indicated a reduction of the extremist outcome criteria. Only Pauwels and Svensson (2017) carried out moderator analyses on interactions of the protective factors with a present risk. Eight studies addressed violent behavior, ten ones violence-prone attitudes, and five ones the willingness to use violence. Two analyses formed a composite score of violent behavior and attitudes. Many outcome data \((n = 13)\) were self-reports of the participants. Two studies analysed answers to written scenarios and two studies used a special database (PIRUS) that contained information on radicalization in the U.S. (including files of convicted extremists).

The qualitative studies investigated disengagement of individuals who had been involved in more or less violent extremist organizations. Three studies examined former jihadists (Syria/Iraq and Indonesia). In two studies, the participants formerly adhered to nationalist/separatist ideologies (Northern Ireland and Spain). One study included extremists from different organizations including violent far-right, jihad-
ist, and separatist, as well as nonviolent environmental organizations in Australia. Further characteristics of these studies are presented in Table 2 in the results section.

Whereas these six studies dealt with self-reported disengagement, there was another study that interviewed young at-risk individuals as well as service providers to investigate resilience against violent extremism on the individual and community level (Weine and Ahmed 2012). Overall, the qualitative studies did not provide as many and as detailed data on the samples, variables, and other characteristics as the quantitative analyses.

Results

Results of the Quantitative Studies

All quantitative studies analyzed more than one potentially protective factor and some even more than ten. For reasons of parsimony and clarity, in this article we only present results on those variables that showed a significant protective effect. Of course we are aware of the risk of multiple statistical tests, but in the light of some small samples in the primary studies and the rather exploratory (not theory-testing) character of our review, we set \( p < .10 \) as a threshold. Most significant effects were at \( p < .05 \) or lower (see Appendix). Altogether, we found 30 different variables with an effect that could be interpreted as being protective against extremism in the presence of risk factors. Some studies only detected one protective effect, but others up to nine or ten (Bhui et al. 2014; Baier et al. 2016). We subsumed the variables to the categories that Lösel and Farrington (2012) used for their classification of protective effects against violence of young people: Individual, family, school, peer group, and community/society factors, although there is some overlap between these categories. We will not go through all the detailed findings, but concentrate on those that based on more than one analysis and/or were relevant for different types of extremism. Table 1 presents the condensed results from the Appendix.

At the individual level, self-control protected against far-right, far-left, and religious/ethnic extremism and radicalization (Pauwels and Svensson 2017). Adherence to law was also a protective factor against extremist attitudes in the religious/ethnic (mainly islamist), far-right, and far-left spectrum (Baier et al. 2016). It also reduced violent left-wing extremist behavior (Baier et al. 2016). Acceptance of police legitimacy (Pauwels and De Waele 2014) and illness/disease (Bhui et al. 2014) also had a protective effect in more than one analysis. Somewhat surprising was the finding that subjective deprivation of one’s socio-economic status protected against right-wing extremism (Fuchs 2003).

At the family level, an appreciative, positive parenting style (Baier et al. 2016; van Bergen et al. 2016), non-violent significant others (Jasko et al. 2016), and ownership of residential property (Asal et al. 2008) had a protective effect against different kinds of extremism/radicalization.

There were also replicated protective effects at the school level. Good school achievement and bonding to school reduced far-right and far-left extremist attitudes
Table 1 Main results of quantitative studies on protective factors against political and religious extremism and radicalization

<table>
<thead>
<tr>
<th>Factor</th>
<th>Type of ideology</th>
<th>No. of effects</th>
<th>Outcome criteria</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-control</td>
<td>rw, lw, r/e</td>
<td>3</td>
<td>Behavior</td>
<td>Pauwels and Svensson (2017)</td>
</tr>
<tr>
<td>Empathy</td>
<td>r/e</td>
<td>1</td>
<td>Attitude</td>
<td>Feddes et al. (2015)</td>
</tr>
<tr>
<td>Value complexity</td>
<td>r/e</td>
<td>1</td>
<td>Behavior</td>
<td>Liht and Savage (2013)</td>
</tr>
<tr>
<td>Anxiety about getting incarcerated</td>
<td>n/s</td>
<td>1</td>
<td>Attitude</td>
<td>Cragin et al. (2015)</td>
</tr>
<tr>
<td>Acceptance of police legitimacy</td>
<td>rw, rw</td>
<td>2</td>
<td>Behavior</td>
<td>Pauwels and De Waele (2014)</td>
</tr>
<tr>
<td>Adherence to law</td>
<td>rw, lw, r/e, lw</td>
<td>4</td>
<td>Attitude, behavior</td>
<td>Baier et al. (2016)</td>
</tr>
<tr>
<td>Political disinterest</td>
<td>n/s</td>
<td>1</td>
<td>Willingness</td>
<td>Cragin et al. (2015)</td>
</tr>
<tr>
<td>Low importance of religion</td>
<td>r/e, r/e</td>
<td>2</td>
<td>Attitude</td>
<td>Bhui et al. (2014)</td>
</tr>
<tr>
<td>Intensive religious practice</td>
<td>r/e</td>
<td>1</td>
<td>Attitude and behavior</td>
<td>Muluk et al. (2013)</td>
</tr>
<tr>
<td>Employment</td>
<td>mixed</td>
<td>1</td>
<td>Behavior</td>
<td>Jensen et al. (2016)</td>
</tr>
<tr>
<td>Perceived personal discrimination</td>
<td>rw</td>
<td>1</td>
<td>Behavior</td>
<td>Pauwels and De Waele (2014)</td>
</tr>
<tr>
<td>Subjective deprivation of SESa</td>
<td>rw</td>
<td>2</td>
<td>Attitude, attitude and behavior</td>
<td>Fuchs (2003)</td>
</tr>
<tr>
<td>Dissatisfaction with quality of life</td>
<td>n/s</td>
<td>1</td>
<td>Attitude</td>
<td>Cragin et al. (2015)</td>
</tr>
<tr>
<td>Illness, depression</td>
<td>r/e, r/e, r/e</td>
<td>3</td>
<td>Attitude</td>
<td>Bhui et al. (2014)</td>
</tr>
<tr>
<td>Threatening life events</td>
<td>r/e</td>
<td>1</td>
<td>Attitude</td>
<td>Bhui et al. (2014)</td>
</tr>
<tr>
<td><strong>Family factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appreciative parenting behavior</td>
<td>lw, r/e</td>
<td>2</td>
<td>Attitude, Willingness</td>
<td>Baier et al. (2016), van Bergen et al. (2016)</td>
</tr>
<tr>
<td>Ownership of residential property</td>
<td>r/e, r/e</td>
<td>2</td>
<td>Attitude</td>
<td>Asal et al. (2008)</td>
</tr>
<tr>
<td>Family members not involved in violence</td>
<td>n/s</td>
<td>1</td>
<td>Willingness</td>
<td>Cragin et al. (2015)</td>
</tr>
<tr>
<td>Significant other not involved in violence</td>
<td>mixed, mixed</td>
<td>2</td>
<td>Behavior</td>
<td>Jasko et al. (2016)</td>
</tr>
<tr>
<td>Incarceration of a family member</td>
<td>n/s</td>
<td>1</td>
<td>Attitude</td>
<td>Cragin et al. (2015)</td>
</tr>
<tr>
<td>Membership in specific religious group</td>
<td>r/e</td>
<td>1</td>
<td>Attitude</td>
<td>Asal et al. (2008)</td>
</tr>
<tr>
<td><strong>School factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher educational level</td>
<td>r/e</td>
<td>1</td>
<td>Attitude and behavior</td>
<td>Muluk et al. (2013)</td>
</tr>
</tbody>
</table>

(continued)
and behavior (Baier et al. 2016; Boehnke et al. 1998). The finding of Muluk et al. (2013) on a protective effect of higher education against religious/ethnic extremism was similar.

With regard to peer group influences, contact with non-violent peers had a protective effect against mixed types of extremism and nationalist/separatist orientations (Cragin et al. 2015; Jasko et al. 2016). More specific was the finding that contact to foreigners came along with less right-wing extremism (Fuchs 2003).

The latter result could also be subsumed under factors on the community/society level, where a basic attachment to society was protective against religious/ethnic extremism (van Bergen et al. 2015, 2016). That only very few other protective factors were found in this domain was insofar plausible as all primary studies gathered data from individuals that also reflect influences at the meso- and macro-level.

Most of the significant quantitative results in our review were found in single studies, i.e. they based on one sample, one cultural context, and one type of extremism/radicalization respectively (see Table 1). The majority of these findings are plausible: For example, a protective function of employment (Jensen et al. 2016), empathy with non-Muslims (Feddes et al. 2015), becoming politically disinterested (Cragin et al. 2015), understanding complexity in values (Liht and Savage 2013), having non-violent family members (Cragin et al. 2015), being a first generation migrant (Bhui et al. 2014), and showing concern about getting incarcerated or the equally deterring experience of incarcerated family members (Cragin et al. 2015).

Table 1 (continued)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Type of ideology</th>
<th>No. of effects</th>
<th>Outcome criteria</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good school achievement</td>
<td>rw, lw, rw</td>
<td>4</td>
<td>Attitude, behavior</td>
<td>Baier et al. (2016), Boehnke et al. (1998)</td>
</tr>
<tr>
<td>Bonding to school</td>
<td>rw, lw</td>
<td>2</td>
<td>Attitude</td>
<td>Baier et al. (2016)</td>
</tr>
</tbody>
</table>

**Peer group factors**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Type of ideology</th>
<th>No. of effects</th>
<th>Outcome criteria</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-violent peers</td>
<td>n/s, mixed</td>
<td>3</td>
<td>Willingness, behavior</td>
<td>Cragin et al. (2015), Jasko et al. (2016)</td>
</tr>
<tr>
<td>More social contacts/social networks</td>
<td>t/e</td>
<td>1</td>
<td>Attitude</td>
<td>Bhui et al. (2014)</td>
</tr>
<tr>
<td>Contact to foreigners</td>
<td>rw, lw</td>
<td>2</td>
<td>Attitude, attitude and behavior</td>
<td>Fuchs (2003)</td>
</tr>
</tbody>
</table>

**Community/society factors**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Type of ideology</th>
<th>No. of effects</th>
<th>Outcome criteria</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic attachment to society</td>
<td>t/e, r/e, r/e</td>
<td>3</td>
<td>Willingness, attitude</td>
<td>van Bergen et al. (2015, 2016)</td>
</tr>
<tr>
<td>Low social capital</td>
<td>t/e</td>
<td>1</td>
<td>Attitude</td>
<td>Bhui et al. (2014)</td>
</tr>
<tr>
<td>Migrant of the first generation</td>
<td>t/e</td>
<td>1</td>
<td>Attitude</td>
<td>Bhui et al. (2014)</td>
</tr>
</tbody>
</table>

Notes. rw right-wing ideology, lw left-wing ideology, r/e religious/ethnic ideology, n/s nationalist/separatist ideology, behavior violent extremist behavior, attitude extremist attitudes, willingness willingness to engage in violent extremist behavior, attitude and behavior composite score of behavior and attitudes

*Negative evaluation of own socio-economic status
Table 2  Main results of qualitative studies on disengagement and de-radicalization from extremist violence

<table>
<thead>
<tr>
<th>Factor</th>
<th>Type of ideology</th>
<th>Study</th>
<th>Push/pull factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disillusionment with group leaders or members</td>
<td>r/e, n/s, mixed</td>
<td>1, 2, 3, 4, 5, 6</td>
<td>Push</td>
</tr>
<tr>
<td>Disillusionment with group methods</td>
<td>r/e, mixed</td>
<td>1, 2, 3, 5, 6</td>
<td>Push</td>
</tr>
<tr>
<td>Unmet expectations</td>
<td>r/e</td>
<td>3, 6</td>
<td>Push</td>
</tr>
<tr>
<td>Own identity</td>
<td>mixed</td>
<td>1</td>
<td>Pull</td>
</tr>
<tr>
<td>Age, mental and physical health</td>
<td>n/s, mixed</td>
<td>1, 4, 5, 6</td>
<td>Push</td>
</tr>
<tr>
<td>Competing loyalty</td>
<td>r/e</td>
<td>6</td>
<td>Pull</td>
</tr>
<tr>
<td>Change of mind, time to think</td>
<td>r/e, n/s</td>
<td>2, 3, 4, 5</td>
<td>Mixed</td>
</tr>
<tr>
<td>Costs-benefit reflections</td>
<td>r/e</td>
<td>2, 3</td>
<td>Mixed</td>
</tr>
<tr>
<td>Family factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good family ties</td>
<td>r/e, n/s</td>
<td>4, 6</td>
<td>Pull</td>
</tr>
<tr>
<td>Family pressure against extremism</td>
<td>r/e</td>
<td>2, 3</td>
<td>Pull</td>
</tr>
<tr>
<td>Own parenthood</td>
<td>n/s</td>
<td>4, 5</td>
<td>Pull</td>
</tr>
<tr>
<td>Peer group and other social factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social relations</td>
<td>r/e, n/s, mixed</td>
<td>1, 2, 3, 4, 5</td>
<td>Pull</td>
</tr>
<tr>
<td>Positive social experiences, social integration</td>
<td>r/e, mixed</td>
<td>1, 2</td>
<td>Pull</td>
</tr>
<tr>
<td>Detachment from extremist group through imprison</td>
<td>n/s</td>
<td>4</td>
<td>Mixed</td>
</tr>
<tr>
<td>Community and society factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in political situation, legitimacy conflict</td>
<td>n/s</td>
<td>4, 5</td>
<td>Pull</td>
</tr>
<tr>
<td>Imprisonment</td>
<td>n/s</td>
<td>4, 5</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

Notes. r/e religious/ethnic ideology, n/s nationalist/separatist ideology
Studies listed in the third column: (1) Barrelle (2015); (2) Chernov Hwang (2015); (3) Chernov Hwang et al. (2013); (4) Ferguson (2016); (5) Reinares (2011); (6) van der Heide and Huurman (2016)

Other single results seemed to be somewhat contradictory, such as intensive religious practice (Muluk et al. 2013) versus low importance of religion (Bhui et al. 2014), having a wider social network versus low social capital (Bhui et al. 2014), or being dissatisfied with own quality of life (Cragin et al. 2015). Such findings should not be generalized across countries, topics, and samples. We will address this issue in the discussion section.

Results of the Qualitative Studies

The main results of the qualitative studies are shown in Table 2. The most common factor leading to disengagement from violent groups was disillusionment, in particular with group leaders and/or members or methods used by the group. Desisting individuals also reported unmet expectations, for example, regarding their own identity as a group member (Chernov Hwang et al. 2013; van der Heide and Huurman...
In addition to these push factors, there were also pull factors such as positive social relations outside the radicalized group, receiving family support, and the experience of being treated well by authorities (Barrelle 2015; Chernov Hwang 2015). Family played not only an important role through strong ties, but also through social pressure or own parenthood (Ferguson 2016; Reinares 2011). Some studies reported a change of mind that followed a cost-benefit-analysis of the own radicalization (Chernov Hwang 2015; Reinares 2011). These individual change processes seem to be triggered or promoted by contextual factors like changes in the political situation or imprisonment that detached the individual from the extremist group and provided “time to think”. Weak physical and psychological conditions, ageing, and mental health problems also fostered disengagement in four studies (see Table 2).

The study that included information from service providers (Weine and Ahmed 2012) suggested a range of protective factors, e.g., family awareness of risks and safeguards, parental monitoring and supervision, family confidants and social support, access to services and helpers, parental involvement in mosques and religious education, focus on a future in the United States, rejection of tribalism and war, youth civic engagement, and political dialogue. Parents’ information of law enforcement and community institutions about recruiters and associates were also seen as steps towards desistance from radical groups.

Discussion

To our knowledge, our project is the first one that carried out a systematic review of protective factors against extremism, radicalization, and related violence. Our search procedure yielded a large number of potentially relevant documents, but most of them contained theoretical, political, practical, or single case discussions. Despite our broad eligibility criteria and the inclusion of both quantitative and qualitative designs, we finally could only include 24 empirical studies. Most of the quantitative studies focused on early phases of radicalization and about half of them analysed extremist attitudes and not aggressive behavior. However, early “shields of resilience” (Doosje et al. 2016) on the attitude level are important because most terrorists were affiliated with non-violent extremism before turning violent (Nesser 2016).

Our review revealed various protective factors on the individual, family, school, peer-group, and community level. It is promising that most of the eligible studies were recent, which indicates a growing research interest in this topic. In the quantitative studies, the main protective factors were self-control, a basic adherence to law, and police legitimacy, employment, positive family ties, sound school achievement and bonding, non-deviant peers, and a basic attachment to society. The qualitative studies addressed push and pull factors in the process of disengagement from radical violence. Here, the main protective factors were disillusionment with the radical groups and their methods, positive family ties and social experiences outside the radical group, self-reflection about own identity and change of mind, critical life events such as health problems, imprisonment or own parenthood. In the following, our findings are discussed in more detail and related to theoretical concepts.
Discussion of the Quantitative Studies

**Individual factors** Table 1 shows that self-control was a protective factor in various analyses. This is consistent to research in other fields of crime and violence (Lösel and Bender 2017). Another significant protective factor was employment (Jensen et al. 2016), which is consistent with protective effects against and desistance from crime (Lösel and Farrington 2012; Sampson and Laub 2003). The protective function of anxiety about being caught is also in accordance with the broader literature on youth violence (Lösel and Farrington 2012). Anxiety is related to enhanced arousal and may thus protect against risky behavior and thrill-seeking (Raine 2013). The finding of empathy for non-Muslims as a protective factor (Feddes et al. 2015) is in line with theories and results on perspective taking as a part of social information processing in violence research (Dodge and Pettit 2003; Lösel et al. 2007). The protective effect of value complexity (Liht and Savage 2013) points in the same direction. The ability to switch perspective and reflect different values can counteract black-and-white thinking that is a component of hostile cognitive schemata. However, we should also be aware of the potential “double face” of protective factors (Lösel and Bender 2003): For example, if there is only selective empathy for the own religious group (Rahimullah et al. 2013), it may not have a protective function, but be a risk for aggression against other groups.

At first glance, the findings on a protective effect of subjective deprivation and dissatisfaction with the own quality of life are surprising because these factors can also constitute a risk for extremism and violence. The respective studies addressed attitudes towards suicide attacks in the West Bank (Cragin et al. 2015), far-right attitudes of students in Germany (Fuchs 2003), and attitudes on religious extremism of young adults in Belgium (Pauwels and De Waele 2014). Probably there are different underlying mechanisms in these results. For example, the far-right attitudes in the German study were related to higher self-esteem and authoritarian attitudes that may counteract feelings of discrimination and deprivation. This is in accordance with feelings of superiority in right-wing Flemish groups (De Waele and Pauwels 2016). Feelings of dissatisfaction may indicate internalizing behavior problems that go along with social withdrawal and thus can protect against affiliation with deviant groups (Lösel and Farrington 2012).

Some individual protective factors such as acceptance of police legitimacy and adherence to law and the society (Baier et al. 2016; van Bergen et al. 2015, 2016; Pauwels and De Waele 2014) are related to the broader social context and will be discussed below.

**Family factors** Table 1 shows various protective family factors. A positive, appreciating parenting style (Baier et al. 2016; van Bergen et al. 2016) and significant others as well as family members who are not involved in violence (Cragin et al. 2015; Jasko et al. 2016) protected against extremism and radicalization. Family ownership of residential property also showed a protective effect (Asal et al. 2008). This is similar to the protective function of the family’s socio-economic status that was found in research on youth violence (Lösel and Bender 2017).
School factors  Our review also showed various protective factors in the school domain. Good school achievement, bonding to school, and a higher educational level had a protective effect against extremism and radicalization (Baier et al. 2016; Boehnke et al. 1998; Muluk et al. 2013). Although our synthesis (like other studies) subsumed school achievement under school factors, this variable also indicates above-average intelligence that has shown a more general protective effect against violence and crime in other studies (Ttofi et al. 2016).

Peer group factors  In the domain of peer relations, there were various plausible findings. Contact with non-deviant peers had a protective effect (Cragin et al. 2015, Jasko et al. 2016). This is in accordance with the literature on a protective effect of non-deviant peers against youth crime and violence (Lösel and Farrington 2012). A larger social network seemed to be protective against extremism (Bhui et al. 2014), which may be due to more non-extremist contacts.

Community/society factors  Our review only revealed few protective factors that can be subsumed to this level. This is insofar plausible as several individual and micro-social factors are more or less indirectly related to the broader social context. Van Bergen et al. (2015, 2016) showed that a basic attachment to or integration into society protects against extremism and radicalization. This finding is in accordance with the theory on informal social control and social bonding (Hirschi 1969). Social bonding may also strengthen the protective function of self-control (Hirschi 2004), but this hypothesis needs more empirical support (Lösel 2017). Bhui et al. (2014) reported that first-generation immigrants are better protected against religious/ethnic extremism than later generations. This is in accordance with research on youth violence (Walburg 2014) and relates micro- and macro-social processes. Whereas first generation immigrants often seek to adapt to the values and life style of the new country, later generations seem to have an enhanced risk of delinquency, perhaps due to integration problems, parenting behavior, and less successful careers at school and work (Baier et al. 2009). The protective function of a basic acceptance of the society’s values, laws, and police legitimacy (Baier et al. 2016; van Bergen et al. 2015, 2016; Pauwels and De Waele 2014) also indicates the interplay between individual and macro-social factors. Such findings are in accordance with general theories on legitimacy in formal social control (e.g., Tyler 2006). For example, right-wing extremists are insofar ambivalent as they oppose current policies on the one hand, but call for law and order on the other hand. Successful coping with this ambiguity seems to have a protective function. Similarly, value complexity can be protective in migrants who are at risk for extremism (Liht and Savage 2013). These and other findings resonate with theories of group identity (Tajfel and Turner 1979) and the protective function of a dual identity against prejudice (Liht and Savage 2013).

Overall, our review of quantitative studies showed various protective factors that were not only similar to the broader criminological research on violence, but also consistent across different forms of extremism and radicalization. Self-control and a basic adherence to law were relevant for right- and left-wing as well as religious/
ethnic extremism. Non-violent significant others, positive parenting, and non-violent peers also had a protective function against different forms of extremism and radicalization. Bonding to school and school achievement were only protective for right- and left-wing extremism, but not for the religious/ethnic form. This finding indicates different developmental origins and pathways. A basic attachment to society and religion-related factors more specifically fostered protective mechanisms against religious/ethnic extremism. However, there seems to be no general mechanism because the cultural context was relevant for the respective influence.

**Qualitative Studies**

Whereas the quantitative studies mostly addressed early phases of radicalization, the qualitative studies investigated processes of de-radicalization and disengagement after involvement in violent groups and terrorism. The few eligible studies had been carried out in different countries and on various types of radical groups. However, there was remarkable consistency in the findings on the main factors that contributed to disengagement and desistance from violence. The “pull factors” that helped individuals to desist were partially similar to the protective factors against extremism and radicalization in the quantitative studies. Ties to or pressure from the family, positive social relations and experiences, health problems, critical life events like fatherhood, weighing the costs and benefits of extremist violence, and self-reflection on one’s own identity were relevant for disengagement (see Table 2). These results are in accordance with the more general research on desistance from crime and violence (Farrall et al. 2011; Sampson and Laub 2003). They are also similar to what we found in a study on hard-core football hooligans (Lösel and Bliesener 2006).

The distinction between push and pull factors is not clear-cut (Raets 2017), but meaningful for practical purposes. They indicate processes of approach and avoidance motivation and may interact with each other. Disillusionment with leaders or members of the radical group, the methods they used, and other disappointing experiences were the main push factors in our review. These findings support case studies of the process of desisting from terrorism (e.g., Horgan 2009). Push and pull factors are also plausible from broader theoretical perspectives.

**Relations to Various Theories**

Due to the available primary research, our review of research on potential “shields of resilience” could not address specific theories. However, our findings can be subsumed under various theories of extremism and radicalization. For example, the family and peer group factors fit to social learning theory (Atkins and Winfree 2017) and also (partially) to strain theory (Agnew 2017). Individual propensities
like self-control and basic adherence to law and police legitimacy are in accordance with situational action theory (Wikström and Bouhanna 2017). The role of value complexity and perspective taking can be explained by theories on inter-group conflicts and prejudice (Tajfel and Turner 1979; Figueiredo et al. 2014) and also by theories on social information processing (Dodge and Pettit 2003). The latter is related to social learning because experiences of violence in social contexts lead to aggression-prone cognitive schemata (Lösel et al. 2007). These and other middle-range theories are plausible, but scholars rightly plea for more theoretical integration on extremism (Pauwels and De Waele 2014) and criminology in general (Bruinsma 2016). We agree and see some promising concepts in the above-mentioned theories as well as in a General Aggression Model (Anderson and Bushman 2002; DeWall et al. 2011) that aims to explain how personal and situational factors influence cognitions, feelings, and physiological arousal that, in turn, affect appraisal and decision processes leading to violent or non-violent behavior. Bandura’s (1979) integrative approach is also very useful. It explains propensities for aggression, situational influences, and how reinforcement and self-related cognitions lead to a change or stabilisation of behavior (for an application to politically and otherwise motivated violence, see Lösel et al. 1990). Pauwels and De Waele (2014) described an integration of constructs from control theory, procedural justice theory, general strain theory, social learning theory, and self-control theory that can also be applied to protective factors against extremism and radicalization.

Although these theoretical approaches are promising, the data base on protective factors is still too small to propose general explanations. More theoretical integration is needed, but so-called “general theories” can also be misleading (e.g., Lösel 2017). We should be realistic about what can be empirically tested in an integrative manner. For example, some studies in our review showed that changes in the political situation of a country contributed to disengagement from terrorism (Ferguson 2016; Reinares 2011). This can be related to decision making and legitimacy conflicts on the individual level, but the causes for the change on the macro-level require different theoretical approaches. With regard to the individual development, we propose the concept of accumulated risk and/or protective factors (Lösel and Bender 2003) that lead to chain reactions into and out of violence.

**Limitations of Our Review**

Our review on protective factors provides some systematic knowledge on how “shields of resilience” against radicalization and violence may function. However, more high-quality studies on this topic are needed. Therefore, we avoid far-reaching generalizations.

The number of eligible *quantitative* studies was moderate and many results could only be derived from one single project. As in other criminological fields, more
replications are necessary (e.g., Lösel 2018). The definitions and operationalisations of constructs in the studies varied, what led us to mostly adhere to the descriptions in the primary studies. Some large surveys of student samples defined extremism on the basis of scale distributions that did not necessarily indicate a strong propensity for radicalization. Most quantitative studies had a cross-sectional or retrospective design and therefore cannot provide robust knowledge on developmental processes. The methods of data collection were mainly self-reports of young people. As different data sources on youth problem behavior show only small to medium correlations (Achenbach 2006; Lösel 2002), cross-validation by other informants would be welcome. One should also bear in mind that Table 1 and the Appendix only contain significant results on protective factors. Most quantitative studies investigated other variables so that a bias of multiple testing may have been possible. As it is difficult to detect buffering protective factors in criminological research (Loeber and Farrington 2012; Lösel and Bender 2003), we suggest to see our review more as a preliminary than definite answer to the question of what protects against extremism and radicalization.

The qualitative studies in our review also have limitations. We only found a handful of eligible studies that contained more than single case analyses of desistance from politically or religiously motivated violence. The types of terrorism and the cultural contexts were heterogeneous, which again requires caution with regard to generalization. As in the quantitative studies, the main data sources were self-reports of the (previously) violent extremists. Although the primary studies found plausible indicators of disengagement, there remains the question whether it is a permanent desistance or only a temporary change after imprisonment and/or interventions. However, lapses and relapses are not specific for our topic, but general issues of desistance from crime.

The qualitative findings could not be tested for statistical significance. Although there was consistency between the different studies, a systematic comparison is complicated by sometimes lacking details on sample characteristics, applied methods, and the validity of narratives that were gathered in the interviews.

Practical Conclusions

In spite of the above-mentioned limitations, our findings are relevant for practice. Studies on extremism and radicalization are often based on official data, publicly accessible information, or single case analyses. In contrast, most of the studies in our review directly gathered data from samples of extremist individuals. This is important for understanding developmental trajectories that are relevant for prevention. Basically, there are two different approaches to prevent extremism and radicalization:

One group of measures aims for control and suppression, e.g., by the police, intelligence services, and the criminal justice system, or through technical and other forms of situational prevention. Our review contains some findings that are relevant
for these approaches. The protective effects of a basic adherence to law, acceptance of police legitimacy, and criminal prosecution of extremist offenders underline the importance of consequent state reactions. With regard to imprisonment, there may, however, be both a deterrent effect and a negative influence by other extremist inmates. Therefore, it is necessary to carry out thorough assessments and reduce the influence of radical leaders that differ, for example, in various aspects from Salafist followers (King et al. 2018).

The second approach to prevention contains psychosocial and educational programs for youngsters in schools, families, and neighborhoods. Other programs are used by social services, in prisons, or in probation to support the reintegration of extremist offenders. In this field, the studies in our review support approaches to strengthen family ties, modify social cognitions, reflect and practice skills that help to be assertive against extremist group influences, promote perspective taking, reduce prejudice, and develop a law-abiding dual identity in migrants.

There are numerous developmental prevention programs against crime and violence that more generally address these factors. The mean effect sizes are positive (Farrington et al. 2017; Lösel 2012), but there is much variation in the outcomes that is not only due to the respective program contents. Therefore, developmental programs that showed replicated effects should be used to prevent radicalization, but they should also be evaluated with regard to effective contents and framing conditions. Specific programs on inter-group prejudice showed mainly positive effects (Beelmann and Heinemann 2014), but there is also a large variation in the outcomes. Many programs aim to achieve de-radicalization and disengagement. Preliminary searches in our PROTON work package suggest that there are more than 2,000 measures and programs implemented in Europe. However, there is not yet sound evidence of their effectiveness in well-controlled evaluations (Armborst and Kober 2017; Beelmann 2017). We are currently working on a European review of well evaluated programs. Our first impression suggests that the recent strong increase of interventions in practice is not yet accompanied by sound evaluations of these activities. Therefore, we wish to remind of other experiences in prevention that good intentions are no guaranty for effectiveness (e.g., McCord 2003).

Appendix

Detailed characteristics of quantitative studies on protective factors against political and religious extremism and radicalization
<table>
<thead>
<tr>
<th>Author/publication date</th>
<th>Type of sample</th>
<th>Country</th>
<th>Sample N</th>
<th>Age range or M (SD)</th>
<th>Type of extremism</th>
<th>Type of analysis</th>
<th>Outcome</th>
<th>Type of factor</th>
<th>Protective factors</th>
<th>Type of analyses</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asal et al. (2008)</td>
<td>Families of martyrs in the jihad</td>
<td>Pakistan</td>
<td>141</td>
<td>46.19 (14.62)</td>
<td>r/e</td>
<td>Logistic regression</td>
<td>r/e</td>
<td>Type of sample</td>
<td>Ownership of residential property</td>
<td>Ownership of residential property</td>
<td>r/e</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td>Membership in specific religious groups</td>
<td>Membership in specific religious groups</td>
<td>r/e</td>
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<td></td>
<td></td>
<td></td>
<td>Ownership of residential property</td>
<td>Ownership of residential property</td>
<td>r/e</td>
</tr>
<tr>
<td>Baier et al. (2016)</td>
<td>Students</td>
<td>Germany</td>
<td>4697</td>
<td></td>
<td>rw</td>
<td>Multilevel linear regression</td>
<td>rw</td>
<td>Type of sample</td>
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<td>Bonding to school</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Good school achievement</td>
<td>Good school achievement</td>
<td>rw</td>
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<td></td>
<td></td>
<td></td>
<td>Adherence to law</td>
<td>Adherence to law</td>
<td>rw</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Appreciating parenting style</td>
<td>Appreciating parenting style</td>
<td>lw</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Bonding to school</td>
<td>Bonding to school</td>
<td>lw</td>
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<td></td>
<td></td>
<td></td>
<td>Good school achievement</td>
<td>Good school achievement</td>
<td>lw</td>
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<td></td>
<td></td>
<td></td>
<td>Good school achievement</td>
<td>Good school achievement</td>
<td>lw</td>
</tr>
<tr>
<td>Author/publication date</td>
<td>Country</td>
<td>Sample N</td>
<td>Type of sample</td>
<td>Age range or M (SD)</td>
<td>Type of extremism</td>
<td>Outcome</td>
<td>Type of analyses</td>
<td>Protective factors</td>
<td>Type of factor</td>
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<tr>
<td></td>
<td></td>
<td>3033</td>
<td>lw Behavior</td>
<td>18–45 r/e Attitude (condemnation of terrorism)</td>
<td>Multinomial logistic regression</td>
<td>Adherence to law</td>
<td>$\beta = -0.40^{***}$</td>
<td>Individual</td>
<td></td>
<td></td>
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<td>β = −.41*</td>
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Resilience against Political and Religious Extremism, Radicalization, and Related...
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<td>Appreciating parenting style $\beta = -0.17^{†}$</td>
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Notes. rw right-wing ideology, lw left-wing ideology, r/e religious/ethnic ideology, n/s nationalist/separatist ideology, SEM structural equation model; if the authors applied several models in a regression analysis, the reported results always reflect the model in which all variables were included.

$^{†} p < .10$, $^{*} p < .05$, $^{**} p < .01$, $^{***} p < .001$
References

∗ Quantitative studies included in this review
† Qualitative studies included in this review


Introduction

The potential for terrorism offenders to re-offend is a key concern for western countries. In the coming years hundreds of terrorism offenders are set to be released in the US, UK, Europe, and elsewhere. Despite the many advances made in the study of de-radicalization and desistance, it remains that little is known about terrorist recidivism. Statistics on terrorist recidivism are hard to come by and are largely anecdotal. Additionally, little work has been done to examine which factors may predict terrorist recidivism (Pluchinsky 2008; Silke and Veldhuis 2017).

The study of recidivism generally considers the rate at which released offenders return to criminality. Depending on the study, recidivism is examined by whether offenders have been re-arrested, re-convicted, or re-incarcerated. The majority of recidivism research considers offenders to be recidivists regardless of the nature of index offence or the new offence. That is, involvement in any new offence—regardless of how it is measured—post-release is considered a marker of recidivism. Such an approach does not address the specific concerns regarding terrorist recidivism. Rather than being interested in whether a released terrorism offender may engage in some low-level criminal activity, the interest of terrorist recidivism relates to the possibility of terrorism offenders returning to terrorism. While it has been suggested that we can learn much about terrorist recidivism and its risk factors from the study of criminal recidivism, it remains that little work has been done in this area (Altier et al. 2012, 2014).
The study of terrorist recidivism is therefore the study of recidivism to the same offence type. However, such study is difficult given the rarity of this type of offending, and as such the low base-rates, as well as the overly long or short observation periods that are characteristic of terrorism research more broadly. Some studies may be criticized for examining recidivism over time periods and decades that are disconnected, such as the 1950’s and the post-9/11 era. Others may only include a short observation period of a few years, which does not allow enough time for offenders to display recidivism (van der Heide and Schuurman 2018). As a result of these issues, what little data does exist regarding base-rates for terrorist recidivism is often questionable.

Like other areas of terrorism research, Israel may be able to serve as an important case study. Of all democratic countries, Israel suffers the greatest frequency of terrorism. As a result, Israel has incarcerated tens of thousands of ‘security offenders’ over the last few decades, charged with a variety of violent and non-violent terrorism-related offences. In this chapter we analyze data provided by the Israel Prison Service on all security offenders processed between 2004 and 2017. The large sample size and long observational period enable us to provide a comprehensive analysis of terrorism-specific recidivism, and key risk factors known to affect recidivism.

**Terrorist Recidivism**

The literature from criminology shows that recidivism rates vary greatly depending on the measure used. Generally speaking, recidivism research looks at re-arrests, re-convictions, or re-incarcerations for any offence. However, some studies consider recidivism—using one or more of these measures—to the same type of offence as the most important measure of recidivism (Waldo and Griswold 1979). The study of recidivism to the same offence type typically relates to the study of offender specialization and versatility.

While it is difficult to summarize this literature, it has generally been found that offenders are quite versatile (Piquero et al. 2012; Wiesner, Yoerger and Capaldi 2018). However, when comparing recidivism rates for recidivism to the same offence, there are large differences between different types of offenders. For example, sex offenders, who are often the subject of such inquiry, are often found to lower levels of specialization and recidivism than other offenders. However, when disaggregating into rarer offences, such as rape, higher levels of specialization and recidivism may be found (Miethe, Olson and Mitchell 2006). As Prentky, Lee, Knight and Cerce (1997) point out in their study of sex offenders over a 25-year period, had their analysis been limited to the traditional 5-year timeframe, they would have missed around 20 of the same offence recidivism cases. Similarly, in the only known study to examine risk factors for terrorist recidivism, Fahey (2013) found that only time at risk (time since release) was a significant predictor of recidivism. As such there is a need for longer observation periods in the study of recidivism to the same offence for this rare offence type.
Statistics on terrorist recidivism are hard to come by and estimates can vary widely (Clifford 2018). A recent study of U.S. domestic terrorism offenders found a recidivism rate of only 1.6% (Hodwitz 2019). Another recent study found that among terrorism offenders in the Netherlands, between 2008–2012 the recidivism rate was 4.6% (van der Heide and Schuurman 2018). These numbers are quite close to the oft cited statistic that only about 2–3% of Irish Republican terrorism offenders released in the Good Friday Agreements recidivated to terrorism related offending (Silke 2014). However, not all estimates are so low, with the most recent Department of National Security report estimating that 30% of released Guantanamo Bay detainees had recidivated to terrorism. A similar rate was found among terrorism offenders in Israel between 2008–2012. However, our recent study on Jerusalem found that the rate was closer to 60% (Hasisi et al. 2019), almost identical to the rate identified in a recent study of 170 terrorism offenders from the U.S (Altier et al. 2019). Interestingly, these larger rates are quite similar to the estimated rate of recidivism among German right-wing extremist offenders (Weilnböck, 2012).

Different statistics that are also relevant to the inquiry into terrorist recidivism can be found among other groups of offenders as well, for example, returning foreign fighters who subsequently were involved in domestic terrorism cases. While it has been found that among returning foreign fighters in western countries the rate is about 11% (Hegghammer 2013), the numbers were much higher in Indonesia and Algeria in the 1980–1990s, at 40 and 90% respectively (Cragin 2017). Similarly, statistics derived from follow-ups of participants in de-radicalization programs show that recidivism rates have similar ranges, from 10% in Saudi Arabia to around 50% in both Yemen and Morocco (Hasisi et al. 2019).

There are a number of possible explanations as to why there is such a wide range of recidivism rates, seemingly wider than rates for ordinary crime. Recidivism rates could be high when the specific socio-political environment and context is one in which extremism is pervasive, where there is a large support base, and where capable organizations operate (Bélanger 2017; Speckhard, Shajkovci and Yayla 2017). This may explain why attacks in Northern Ireland subsided after the “Good Friday Agreement”, whilst they increased in Israel following the Oslo Accords (Masters 2004). In fact, many of the leaders of the post-Oslo Intifada, and perpetrators of serious attacks over the next decade were recidivist terrorists (Samuel 1998; Ganor and Falk 2013). High recidivism rates can also be the result of increased surveillance and policing which give extra attention to released terrorism offenders. In most countries, several security agencies (including the criminal justice system) are involved in detecting and thwarting terror activity, much more than effort allocated to cope with criminal activity. Low recidivism rates could therefore be the result of a lack of surveillance, and the failure of security services to detect recidivism (Bélanger 2017; Porges 2010).

In some cases, low observed recidivism rates may not reflect deterrence but rather an incapacitation effect, whereby offenders receiving longer sentences have less of an opportunity to recidivate during the observation period, or are less likely to recidivate due to their older age at their time of release (Meade et al. 2013; Owens 2009). While this assumption may apply to some terrorism offences, the majority of terrorism offences are non-violent, and average sentence lengths may be only a few
years. Since it is difficult to disentangle the incapacitation and deterrent effects, prevention efforts should seek to combine incapacitation and deterrent elements to decrease recidivism to terrorism over time. Saudi Arabia takes such an approach, where in addition to stiff sentencing, its post-release surveillance has been credited for its deterrent effect and contribution to low recidivism rates (Hasisi et al. 2019).

The Saudi Arabian case also highlights the role of structures of opportunities for released terrorists. Whether or not an individual will desist from terrorism or recidivate is dependent on the availability of different opportunities that are more conducive to desistance, or recidivism. For example, Bjørgo (2008) identifies a range of pull and push factors that increase the likelihood of desistance. Push factors include societal and familial disapproval, while pull factors—which are believed to have a stronger potential influence—include educational, employment and family building opportunities. Individuals may also seek to desist from terrorism when—like crime—they perceive their continued involvement as jeopardizing their extra-terroristic social and familial bonds. As such, when policies and programs promote these pull and push factors post-release, the likelihood of recidivism is reduced. Where these factors are weakly promoted, or not promoted at all, then the structure of opportunities conducive to recidivism may be stronger, and thereby the likelihood of recidivism is greater (Altier et al. 2014). Similar findings have been made with regards to ordinary criminals, and those involved in organized crime in particular (Stys & Ruddell, 2013).

While scholars have theorized that terrorist recidivism rates are likely to be lower than those for ordinary crime (Silke 2014; Bovenkerk 2011), some have referred to rates as low as a few percent as ‘suspicious’ (Horgan and Braddock 2010). It is known that low base rates and inadequate observational periods, which affect much of terrorism research, impact the development of reliable recidivism rates (Gill et al. 2016). Recidivism rates derived from evaluations of prison-based programs may also be problematic. These programs often involve volunteer participation with high motivation to redeem and therefore do not report recidivism on non-participants, who are often the most radical (Pettinger 2017). As such, these evaluations also do not provide base-rates of recidivism. Rather, base rates must be developed from large samples, over longer observation periods, ideally in the absence of any specific rehabilitation programming.

**Risk Factors for Recidivism to Terrorism Offending**

While Fahey’s (2013) study of Guantanamo Bay detainees, found that only time at risk (time since release) significantly predicted recidivism, the results highlight the possibility that terrorist recidivism may be affected by known risk factors for ordi-

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1 According to information presented in the annual Terrorism Situation and Trend Report (TE-STAT) published by Europol, the average sentence lengths in countries such as the UK, Germany, and France range from 4–9 years depending on the year of the report. Sentences for terrorism offences are notoriously short in fact (Chesney 2007), and can be made shorter based on the offence stemming from a sting operation (Norris 2019), or conviction stemming from plea bargaining (De Kerchove and Höhn 2016).
nary criminal recidivism. However, while many similarities exist between criminals and terrorists, there are also important differences and recidivism risk assessment tools need to be tailored for terrorism offending (Kebbell and Porter 2012; Dernevik et al. 2009). While the literature on criminal recidivism has identified a range of key risk factors, it also highlights that such factors may operate differently, or have differential effects depending on the outcome being measured.

In this regard, one of the most commonly examined risk factors is also one of the most controversial, namely sentence length. There is however a debate in the literature as to whether longer sentence lengths have a deterrent effect or a risk effect, and the evidence is quite mixed on this issue (Mears, Cochran and Cullen 2015; Rydberg and Clark 2016; Mitchell et al. 2017; Liem 2013), especially when controlling for offence type (Rydberg and Clark 2016). It remains unknown as to how sentence length may affect terrorist recidivism. Sentences for terrorism offences are often quite short, on account of the fact that most sentences are for non-violent offences, or include a broad variety of offences (Chesney 2007). However, longer sentence lengths mean that offenders will be older when they are released, giving them more time to naturally ‘age out’ of offending (Spivak and Damphouse 2006). This is one explanation for why longer sentences are often associated with a reduced likelihood of recidivism. But the effects of aging go beyond this, since as an individual age, life changes, such as attainment of an academic degree, employment, marriage, and the baring of children may occur.

Marriage in particular—and children—place new obligations upon an individual, which often include the need to maintain steady employment. However, the quality of marriage matters. Recent, or weak marriages may not have had the time to develop into the type of relationship that acts as a protective factor. The quality of marriage may be especially pertinent in the case of terrorism, since an encouraging spouse who shares the extremist ideology may increase the likelihood of offending (Altier, Boyle and Horgan 2019; Silke 2008). Studies of Jihadists have found that the majority were married, and had children (Bakker 2006; Sageman 2004). Additionally, Berrebi (2007) found that 45% of Palestinian terrorists were married, although this number was lower than that of the general population (59%). In a study of homegrown Jihadists in the US, 20% were found to be married to an extremist spouse (Klausen et al. 2018). The authors state that “marriage is tied to status and martyrdom, and it is a frequent precursor to violent action” (p. 4). As such, marriage may be one factor that operates differently for terrorists and ordinary criminals (Mullins 2010; Silke 2008).

The high rate of marriage among terrorists may be reflective of the fact that these offenders tend to be somewhat older than ordinary criminals (Pyrooz, LaFree, Decker and James 2018). For instance, non-violent terrorism offenders, who make up the largest group of offenders, tend to be older than violent offenders (Klausen, Morrill and Libretti 2016; Harms 2017; Perliger et al. 2016). Additionally, Islamic extremist offenders are more likely to be married than right-wing or left-wing extremists (Gill, Horgan and Deckert 2014; Chermak and Gruenewald 2015). This is probably related to the different social & cultural contexts in which they come from, with more traditional and religious communities encouraging marriage at younger ages (Silke 2008).
An additional factor that has often been highlighted in the literature is organizational affiliation. For example, the literature on recidivism has found that gang members are at a heightened risk for recidivism compared to non-gang members (Dooley et al. 2014). Additionally, many of the recidivists from Guantanamo Bay were affiliated with known terrorist organizations, where ideology and social network play important role in maintaining the strength and resilience of terrorist groups. Indeed, Hasisi et al. (2019) found that among terrorism offenders from Jerusalem, organizational affiliation with one of the major Palestinian organizations was associated with an increased risk of recidivism. Like in other places, such as the Philippines, even members of organizations actively involved in peace efforts and diplomacy may continue to carry out acts of terrorism, and recognized organizations may splinter into new groups, or leave behind semi-autonomous wings. In the context of the Palestinian organizations, whilst Fatah has formerly renounced terrorism, many factions still flying its banner have refused to do so and continue to support, promote, and carry out militant activities (Shikaki 2004). Many of its activists have continued to be involved in violence, including terrorism (Høigilt 2016).

The Current Study

The current study takes advantage of a large dataset of offenders who were incarcerated for terrorism related ‘security offences’ in Israel over a 13-year period (2004–2017) and examines the characteristics of recidivism to security offending. There are no de-radicalization or desistance treatment programs for security prisoners in the IPS. Rather, security prisoners were afforded opportunities to engage in higher education through the Open Universities program.

Methods

Data

The data for this study was obtained from the Israel Prison Service (IPS) who is in charge of the incarceration of all terrorist offenders, defined as those who “committed an obvious attack on national security or other illegal activities related to nationalistic ideology” (Hasisi et al. 2019). These prisoners are classified by the IPS as “security prisoners” according to the conclusions of the Israeli Security Agency (ISA). The data included information about all security prisoners who had been processed for incarceration by the IPS during the years 2004–2017. Prior to 2004, most security prisoners had been incarcerated by the Israeli Military Police. However, prison reforms shifted the responsibility for security prisoners to the IPS, who have since maintained responsibility for all criminal and security prisoners. As
such, from 2004 onwards all data collection, storage and processing for both secu-

rity and criminal offenders was placed under a centralized and uniform system. To

ensure consistency of the data, this study included only those prisoners who were

incarcerated during or after 2004 and offenders whose first incarcerations occurred

prior to 2004 were removed from analysis.

The data included both incarceration and individual level risk factors that are

known to affect criminal recidivism: age at first incarceration, age at time of release,

length of full sentence as well as length of actual incarceration, terrorist organiza-

tion affiliation and marital status. In addition, offence type classification for each

incarceration was coded and included: public disorder, assault, murder and man-
Age at time of release  The IPS data includes the release date of each incarceration as well as the prisoner’s date of birth. As such, we calculated age at time of release based on this data. To disentangle age and history of incarceration, age at time of release was tested only for first incarceration.

Length of sentence served  Similar to the length of the sentence, length of sentence served is a calculation of the number of weeks the prisoner was held in prison. Unlike the length of sentence, that is strictly based on the ruling of the court, the length of sentence served is based on the actual term of imprisonment. The length of the sentence served cannot be longer than the length of the sentence ruled. As such, both correlate. Yet, from time to time, agreements between the Israeli government and the Palestinian Authority or the Hamas can result in release of security prisoners before their term. A major event, when a thousand prisoners were released at once, occurred during the period of the study. Thus, correlation between time sentenced and time served is not as strong as one might expect.

Offence type  Offence type was categorized according to the index used by the IPS and Israel Police. Categories used were national security, public disorder, assault, murder and manslaughter, sex, vice and property. National security offences generally relate to offences such as possession/manufacture of weapons, possession of weapons, affiliation with proscribed organizations, or contact with foreign agents. Public disorder offences most commonly related to violent rioting and other forms of low intensity violence such as rock throwing, road blocking etc. Crimes that did not fit into one of the above categories were coded as “other”. One incarceration might relate to several types of crime, whether since the act included more than one offense or whether the incarceration is due to several independent acts. Hence, each category was indexed using a dummy variable, to account for this scenario.

Organizational affiliation  Many security prisoners are known to be affiliated with one of the primary organizations linked to the Israeli-Palestinian conflict. Such affiliation was provided by the IPS, based on the identification done by the prisoners themselves and assessment of the Israeli Security Agency.

Marital status  During the time of the study, the IPS was provided with information about the marital status of the prisoners by the prisoners themselves. Although the information is self-reported, it is regarded as reliable, since it reflects on the rights of the immediate family of the prisoner for visitations. In many cases in the sample, the family lives under the jurisdiction of the Palestinian Authority and is required to be registered and authorized for visitation, contributing further for the validity of the information regarding the prisoners’ immediate family. In order to protect the privacy of the prisoners, the IPS provided marital status in three categories only: Single/never married, married, or divorced or widowed. Prisoners who refused to provide marital status (7.2% of the sample) were categorized as “unknown”.
Analysis

Overall recidivism rates were assessed using the Kaplan-Meier method (Kaplan and Meier 1958). For the effects of risk factors over terrorist recidivism a specific cutoff of recidivism after 5 years from release was used. As recidivism rates in Israel are slow to reach an asymptote, the IPS recommends using 5-years recidivism as a yardstick for measuring recidivism (Ben-Zvi and Walk 2011).

Results

Recidivism Rates

The sample demonstrated a relatively modest recidivism rate, reaching 6.8%, 14.1% and 17.3% 1-year, 3-year and 5-year rates, respectively (Fig. 1). The shape of the recidivism curve is a logarithmic function that follows the general pattern for ordinary criminal recidivism, although recidivism of security prisoners was lower than general criminal recidivism in Israel (Walk and Berman 2015).

History of Prior Security Convictions

Similar to the criminal recidivism literature, prior incarcerations for terrorism-related offences increase the risk of recidivism. While only 16.3% of prisoners without prior incarcerations recidivate 5 years after release, the rate is almost double for

![Graph showing recidivism rates by year after release](image-url)
those with 2 prior incarcerations, at 30.4%. Similarly, prisoners with prior incarcerations tend to be re-incarcerated faster than those without such history. These patterns are similar to what is observed in ordinary criminal recidivism (Fig. 2).

**Age at Time of Release**

Age at time of release ranged between 14.5 and 68.8 years of age, averaging at 24 (SD = 6.33). 11.9% of the sample were legally minor, being younger than 18 years old, whilst only 6.2% of the sample were older than 35 years old. As depicted below (Fig. 3), recidivism to another security incarceration was highest for those released at a younger age. The rate dropped significantly with age, reaching an asymptote as early as age 27.

**Age at First Incarceration**

Since the majority of the sample were not recidivists, and only had one incarceration, age at first incarceration was very similar to age at release, averaging at 21.9 (SD = 5.53). The trend also follows a similar pattern to age at release. Most of the sample were first incarcerated as juveniles (17.9% of the sample) or young adults (79.2% of the sample), and only 2.9% were incarcerated over the age of 35 (see Fig. 4).
Fig. 3 5-year recidivism to security incarceration by age at time of release. Error bars represent standard errors

Fig. 4 5-year recidivism to security incarceration by age at first incarceration. Error bars represent standard errors

**Length of Sentence Served**

In our sample, the length of sentence served had a complex impact on recidivism (Fig. 5). The length of sentences of up to 7 years reduced recidivism, while the effect of sentences longer than 7 years did not continue this trend. Although sentences longer than 7 years show a slight increase in recidivism compared to the 7 years long sentences, recidivism maintains under the high rates of short sentences.
The decline in recidivism by length of sentence served is evident also in the relatively short sentences of up to 2 years (Fig. 5, left panel).

**Offence Type**

As noted above, offence type, and the type of offences contained in offender histories, are known predictors of recidivism. Accordingly, offence types affected the risk of recidivism in our sample (Table 1). Following findings from criminology, the recidivism rate for offenders who committed violent (assault offense) and disorderly offences—(25.7%--was found to be significantly higher than the rate found for offences tagged as “national security”, which include offences such as possession/manufacture of weapons, possession of weapons, affiliation with proscribed organizations, or contact with foreign agents, were correlated with significantly lower recidivism ($X^2(1) = 134.29, p < 0.0001$).

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**Table 1**  Recidivism by type of current offense. Specific incarcerations can be counted several times due to being related to more than one offense type

<table>
<thead>
<tr>
<th>Offence type</th>
<th>N</th>
<th>Recidivism rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>National security</td>
<td>24,536</td>
<td>17.1%</td>
</tr>
<tr>
<td>Murder/manslaughter</td>
<td>9222</td>
<td>18.4%</td>
</tr>
<tr>
<td>Public disorder</td>
<td>1906</td>
<td>25.1%</td>
</tr>
<tr>
<td>Assault</td>
<td>578</td>
<td>25.8%</td>
</tr>
<tr>
<td>Property</td>
<td>546</td>
<td>27.6%</td>
</tr>
</tbody>
</table>

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**Fig. 5**  5-year recidivism to security incarceration by length of sentence served up to 2 years (left panel, in weeks) and over 2 years (right panel, in years)
Most individuals in our samples were affiliated with one of the major Palestinian organizations. About half (49.7%) was affiliated with Fatah and a third (31.1%) with Hamas and Islamic Jihad (31.1%). 6.0% were affiliated with one of the secular organizations (e.g. Popular Front for the Liberation of Palestine), and a negligible number (<0.1%) were affiliated with “other” groups. 13.2% of the prisoners were unaffiliated. Whilst recidivism rates for affiliates of the different organizations were nearly identical (see Table 2), they were significantly greater than unaffiliated ($\chi^2(1) = 247.7, p < 0.0001$).

### Marital Status

The majority of the sample were registers as being single, whereas 17.9% were married, <0.1% divorced or widowed, and 4.1% were listed with an unknown marital status. Overall, the recidivism rate for offenders listed as single was significantly greater than for all other marital statuses ($\chi^2(1) = 31.87, p < 0.0001$), while the prisoners that did not report marital status only seldom recidivated (Table 3).

### Discussion

A growing literature that approaches terrorism from a criminological perspective has now identified that significant overlaps exist between criminals and terrorism offenders, as well as patterns in criminal and terrorism related phenomena. In this chapter we set out to identify to what extent such overlaps may extend to recidivism, namely with respect to the rates of recidivism and recidivism-related risk factors.
Our study in the Israeli context represents an important case study that could have implications for other settings. A study of recidivism in Israel based on data from 2008 found that the 5-year recidivism rate for security offenders was 7.9%, and 41.3% for ordinary crime (Walk and Berman 2015). On the other hand, our prior research on a sub-sample of terrorism offenders from Jerusalem we found that the five-year terrorist recidivism rate was 60.2% (Hasisi et al. 2019). These differences can be explained by the fact that the population of security prisoners in Israel is predominantly not from Jerusalem but from the West Bank (about 95%), hence our results are not contradictory. Our findings of a recidivism rate of 20%, being near exactly half of the recidivism rate for ordinary crime in Israel, demonstrate an important overlap with the relative rates for recidivism to the same offence noted above. They also demonstrate that recidivism rates deduced from limited observational periods may underestimate the phenomenon (Walk and Berman 2015).

In this regard, our study highlights the importance of looking at recidivism over a longer period of time. Had we limited our analysis to 5 years, for those with 2 or more prior incarcerations, we would have missed out on 5% of the recidivists in the dataset. Following general trends observed in criminal recidivism, we found that the rate of recidivism increased following each additional incarceration for a terrorism offence. Since each additional incarceration involves a period in which the offenders is incapacitated and unable to re-offend, the importance of the longer observation period is even more striking. In fact, the small differences in recidivism between 5 and 10 years, relative to sentences less than 5 years, indicate the existence of an incapacitation effect in determining recidivism rates.

These findings are inherently dependent on the effects of incarceration length. As discussed in the literature review, the evidence is quite mixed as to whether longer incarcerations have a greater deterrent or criminogenic effect when it comes to recidivism. In the context of terrorism, much of the focus has been on the role of longer incarcerations. However, as demonstrated by our data, the majority of terrorism-related offences may be for non-violent offences, or at least offences that did not lead to the actual commission of a successful terror attack. As such, like in Europe and the US, incarcerations for terrorism-related offences can actually be quite short.

In this study, a clear decline in recidivism was associated with longer sentences up to 7 years long. However, the trends seem to be less conclusive in sentences longer than 7 years. As has been noted in the literature, it can be quite difficult to disentangle the degree to which incapacitation and deterrence contribute to declining recidivism rates associated with longer incarceration periods. One of the issues with shorter sentences is that offenders are still young when they are released, and thereby still within the peak ‘risk’ period for offending. On the other hand, longer sentences are often associated with older age at the time of release, meaning that the incapacitation period has given the offenders an opportunity to ‘age out’ of offending. Given the mean age of our sample fell within the peak risk period, relatively short sentences of a few years might be enough to incapacitate high-risk prisoners in a critical period in their life (see Figs. 2 and 3 for support of this assumption).

Possible deterrent effects can potentially be deduced by the declining rates of recidivism associated with offenders serving even exceptionally short incarceration
periods. In this range of incarceration lengths, the age of offenders does not change dramatically, thus it is unlikely that mere incapacitation is the cause of the declining trend. While it is clear that both incapacitation and deterrence play a role, our data does not permit for extrapolating to what degree these two causes may be responsible for the observed trends.

With regards to offence type, can be said to be consistent with the evidence from research on criminal recidivism. Generally speaking, violent offenders have higher rates of recidivism than non-violent offenders. However, this may exclude both violent and non-violent offenders of rare crimes, for which recidivism rates are also lower (Blokland and Nieuwbeerta 2004). Our results show that more severe offences, such as manslaughter and murder, were associated with relatively low recidivism rates. This is understandable given that such offences are generally associated with longer incarceration periods. As discussed, longer sentences reduce the amount of time during the observation period in which the offender has an opportunity to recidivate, and also means that offenders are older at the time of their release, which in and of itself is associated with lower recidivism as well.

Perhaps most importantly however is our findings that offenses classified as “national security” were associated with the lowest recidivism rates. This offense category includes a wide range of offenses, from being an active member of an illegal organization to producing weapons, and coordinating attacks. It can be said that offences in this category are generally less descriptive of direct confrontational and violent behavior. It is possible that prisoners who were more active in participating in violent acts will be more prone to being involved again after their release than those who were less active in the first place. Nevertheless, given how general this offence category is, it is difficult to try to extrapolate the underlying explanations for the low recidivism rates.

As our data highlights, the majority of offenders were affiliated with a recognized terrorist organization. Unaffiliated prisoners were significantly less likely to recidivate than affiliated prisoners. Among affiliated offenders, there were little differences in the recidivism rates, regardless of which organization they were affiliated with; although these organizations differ in considerably in terms of their identity and doctrine (e.g. religious, secular). It can generally be said that these organizations enjoy relatively high popular support. It is possible that the similarities in recidivism rates associated with affiliated offenders reflects such support.

The role of such support may also be considered with respect to marital status, for which our findings are similar to what has generally been found in the literature on ordinary criminal recidivism. Namely, that married individuals are less likely to recidivate than non-married. However, these results stand in contrast to previous findings that marriage can be a risk factor for terrorist recidivism (Altier et al. 2019; Hasisi et al. 2019). Additionally, it is interesting to note that among the small sample of offenders for whom a marital status identification is lacking, the rate of recidivism was found to be exceptionally low (3.2%). Since the reason for the missing information is difficult to assess, it is difficult to explain why they had such a low rate of recidivism. Further investigation of the characteristics of prisoners with missing marital status is needed to resolve this puzzling outcome. Given the dis-
crepancies, further research is needed in order to disentangle the risk-protective effects of marriage on recidivism to terrorism. Whilst every country’s experience with terrorism is unique, Israel has often served as an important case study of terrorism and counter-terrorism that may be applicable to other Western contexts.

Lastly we identified important differences between recidivism rates of offenders from Jerusalem and the West Bank. Similar to the effects of organizational affiliation and marriage, these findings can possibly be explained by differences in the structures of support, but also of opportunities that exist between these two places (Bélanger 2017; Speckhard et al. 2017). Firstly, Jerusalem residents reside in areas under full Israeli administration. Their incarceration histories mean that their employment opportunities may be more restricted. Additionally, they may be subject to more ongoing interaction with the Israeli state and with security services in particular. On the other hand, West Bank residents may be able to live their lives in the Palestinian Authority governed territories quite separate from the Israeli state and its security apparatus. Here, the general society would view them as having ‘served their time’ for a national goal. Released terrorism offenders be offered better employment opportunities, with many jobs, especially government jobs under the auspices of the Palestinian Authority, giving preference to, and in some cases being reserved for those who have spent time in Israeli prisons for security-related offences. Unlike ordinary criminals, terrorism offenders are viewed as legitimate, and rather than being labeled as deviant, their activities may lead them to gain higher social status. As such, the opportunities in the West Bank, which has arguably witnessed much improvement compared to East Jerusalem, may be more conducive to desistance.

As a large literature emphasizes, whilst every country’s experience with terrorism is unique—and the Israel and Palestinian one is no different in this regard—important lessons can be drawn from seemingly different contexts. In this regard, Israel has often served as an important case study for lessons on terrorism and counter-terrorism that may be applicable to other Western contexts. As described in the literature review, there is significant overlap in the existing evidence pertaining to trends in terrorism-related phenomena. A growing literature that approaches terrorism from a criminological perspective has now identified that significant overlaps exist between criminals and terrorism offenders, as well as patterns in criminal and terrorism related phenomena. In this study we have identified that these overlaps also extend to the observed patterns of recidivism and the different factors that affect these patterns.

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2While the Palestinian Authority sometimes denies such claims, the Arabic website for the Commission of Detainees and ex-Detainees Affairs includes links to laws and regulations concerning payments to detainees and former detainees, as well as exclusive job advertisements which include being a former detainee as a pre-requisite for application. See http://cda.gov.ps/

3Polls conducted by the Palestinian Center for Policy and Survey Research (PCPSR) consistently show that support for violence and armed struggle is consistently greater in “villages/towns/cities” as well as “refugee camps” than it is in “the West Bank”. The results of the polls can be found at http://pcpsr.org/en/node/154.
Conclusions

The study of terrorist recidivism has to date not received the type of attention that it deserves and demands. In the coming years, hundreds of terrorism offenders are set to be released in Western countries, especially in Europe and the U.S. While many commentators and analysts have expressed fears over the potential for these offenders to re-offend, little is known about what the actual likelihood of recidivism is. To date, most studies have focused primarily on qualitative assessments of programs that seek to promote de-radicalization and disengagement, by which one measure is recidivism. However, with a lack of data on what base-line rates of terrorist recidivism may look like, and what factors may affect terrorist recidivism, it is difficult for programs to be evaluated based on recidivism measures. Additionally, not all terrorism offenders are participating in such programs.

The study presented in this chapter suggests that like many other terrorism-related phenomenon, terrorist recidivism is likely to follow patterns that closely resemble those found with respect to ordinary crime. Like other forms of recidivism to the same offence type for rare offences, terrorist recidivism can be expected to reach approximately half of the general recidivism rate. Similarly, risk factors such as age at time of incarceration and release, number of prior incarcerations, and length of incarceration, are likely to impact the likelihood of recidivism to terrorism in a similar fashion as they do for ordinary criminal recidivism.

While the study presented in this chapter provides additional evidence to support the continued application of criminological perspectives to the study of terrorism, and highlights additional areas of overlap between criminal and terrorism offenders, it also highlights that key differences also exist. Given these findings, it is imperative that researchers further investigate the role of factors known to affect recidivism with respect to terrorist recidivism, in order to better develop risk assessment approaches, and evaluations of programs that aim to prevent the re-offending of extremist offenders following their release from prison.

References


Unintended Negative Outcomes of Counter-Terrorism Policing: Procedural (in)Justice and Perceived Risk of Recruitment into Terrorism

Justice Tankebe

Introduction

Although terrorism has always attracted academic interests, these interests have grown exponentially since the New York terrorist attacks of September 2001. Several cities have since suffered similar attacks, including London (UK), Bagdad (Iraq), Madrid (Spain), Bali (Indonesia), Mumbai (India), and Konduga (Nigeria) (see http://apps.start.umd.edu/gtd/). The rise and demise of the Islamic State of Iraq and Syria (ISIS) further increased the global research and policy interest in the topic. Among the key research questions is the risk of radicalisation, or recruitment into terrorism (Borum 2011; Dalgaard-Nielsen 2010). Radicalisation refers to “a process of escalation from nonviolent to increasingly violent repertoires of action that develops through a complex set of interactions unfolding over time” (della Porta 2018: 461). The research evidence points to the role of various structural and individual factors, including criminal history, lack of employment opportunities and mental health (LaFree et al. 2018; McCauley and Moskalenko 2008).

However, a major cautionary tale in counter-terrorism practices is the risk of unintended negative effects; that is, of these practices increasing rather than reducing the risk of terrorism. Thus, 2 years after the terrorist attacks in New York on September 2001, Mr Kofi Annan, the late Secretary General of the United Nations, remarked at a conference that counter-terrorism practices risked “acting as a recruiting sergeant for the very terrorists we seek to suppress” (Annan 2003). Unintended negative outcomes of counter-terrorism may also find expression in public disinclination to cooperate with security agencies, such as refusing voluntarily to supply them with information about terrorist activities in their local communities. The concern with unintended negative outcomes arises from the perspective that terrorism is not merely a dyadic interaction between states and violent non-state actors; on the...
contrary, terrorist campaigns involve a triad of “strategic actors – the group, the government, and the audience” Cronin (2009). A feature of the dynamic relationship between the State and terrorist groups, argues Cronin, is a struggle to claim legitimacy among local communities. On this perspective, terrorists sometimes tempt the State into actions that delegitimate it both in the eyes of domestic and international audiences (Cronin 2009).

Understanding how people experience and perceive counter policing and its impact can, therefore, be vital not only in encouraging public collaboration, but in preventing radicalisation (see Murphy et al. 2017; Mumpower et al. 2013). Counter-terrorism practices take different forms and at different levels, and involve a multiplicity of actors. One of these actors are the police, and Mr. Annan’s caution draws attention to the nature of the police’s counter-terrorism practices. In the United Kingdom, counter-terrorism strategies are believed to have led to the singling out of sections of populations for “state attention as being ‘problematic’ […]and] may be targeted, not necessarily as a result of suspected wrong doing, but simply because of their presumed membership to that sub-group” (Pantazis and Pemberton 2009: 647). Counter-terrorism strategy in the United Kingdom – especially the element of prevent, which aims to “stop people becoming terrorists or supporting terrorism” (Home Office 2018: 8) – has been more controversial because of concerns that it disproportionately targets Muslim communities. Consequently, scholars have raised concerns that the strategy has made Muslims a “suspect community”, with the attendant fear that the nature of their everyday interactions with police raises questions about unintended, even counter-productive, consequences (e.g. Choudhury and Fenwick 2011).

These concerns resonate with the arguments of police legitimacy theory according to which “the public evaluates police, courts, and the law primarily in terms of how authority is exercised. Police build perceived legitimacy among the public by treating people fairly during personal encounters” (Tyler et al. 2010: 370). Research evidence from nonterror shows that perceived fairness of police practices changes people’s orientations towards the law, including increased likelihood of offending. However, with a few exceptions (for example, Murphy, Cherney and Teston 2019; Tyler et al. 2010), this literature has not been extended to terrorism. Moreover, studies such as Tyler et al. (2010) rely on correlational designs. Thus, the results reported in this chapter extends current literature in two important ways: first, we apply legitimacy theory to test the claims about unintended outcomes of counter-terrorism practices. Specifically, and drawing upon data from an experimental factorial design, we test whether the fairness of counter-terrorism practices increases the perceived risk of recruitment into terrorism. Second, and consequent to this contribution, we add to a small body of legitimacy studies that apply experimental designs to test the effects of procedural justice on people’s orientations to legal authorities (for example, Mazerolle et al. 2013; MacQueen and Bradford 2015), thereby responding to recurrent arguments for experimental studies of legitimacy (see, Nagin and Telep 2017; Hyde 1983).
Procedural (in)Justice Theory and Terrorism Recruitment

Legitimacy has emerged as a central concept in criminological analyse of lawbreaking and cooperation with criminal justice agencies. It is founded on a view of human actors as “norm-users, whose interactions with each other depend on mutually recognizable patterns that can be articulated in terms of right versus wrong conduct, or of what one ought to do in a certain setting” (MacCormick 2007: 20). It follows that attempts to understand people’s orientations to legal authorities demand some consideration of the legitimacy status of those authorities (Beetham 1991). The powers of legal authorities are legitimate if they are “acknowledged as rightful by relevant agents, who include power-holders and their staff, those subject to the power and third parties whose support or recognition may help confirm it” (Beetham 2013: 19). A defining feature of legitimacy is that it is normative and dynamic, requiring constant negotiation and renegotiation between relevant agents in a power relationship (Bottoms and Tankebe 2012, 2017). As Dunn (2013: 1) put it, legitimacy is “a process of permanently active judgment (by multiple audiences), conducted with very uneven alertness and imaginative engagement”.

There are many perspectives on legitimacy in criminology. One view measures legitimacy in terms of citizens’ sense of obligation to obey legal authorities, institutional trust, and judgment that the values of power-holders align with those of citizens (Sunshine and Tyler 2003; Jackson et al. 2012). This is incurably deficient to the extent that it fails to see clearly the difference between legitimacy, and trust and obligation.1 The alternative view, as exemplified in the work of Bottoms and Tankebe (2012, 2017), consider the multi-dimensionality of legitimacy as comprising judgments about effective exercise of authority, the actual or perceived lawfulness of power, and fairness in distribution of resources (distributive justice) and in processes used to reach specific decisions (procedural justice) (for empirical analyses using this latter approach, see Kearns, Ashooh and Lowrey-Kinberg 2019; Tankebe 2013; Tankebe et al. 2016). This study is situated in the Bottoms–Tankebe model, focusing specifically on the procedural justice dimension of legitimacy.

Although dating back to Thibaut and Walker (1975), it is to Tyler that we owe the stature of procedural justice in criminology today. A series of papers on procedure justice culminated in Why People Obey the Law, in which Tyler (1990) outlined a theory of procedural justice – its meaning and dimensions. Procedural Justice describes “the fairness of the processes through which the police make decisions and exercise authority” (Sunshine and Tyler 2003: 514). It has two interrelated dimensions: quality of decision-making and quality of interpersonal treatment (Sunshine and Tyler 2003). The former has three key elements: voice/participation; neutrality; trustworthy motives. An explanation-voice dimension captures both a normative desire for decisionmakers to given reasons for their decisions and the

1This is not the place for a discussion of conceptual differences. Yet, the point must be made that conceptual clarity is crucial to theory development and fruitful research. It is a mistake to attempt to settle conceptual challenges by recourse to complex statistical analyses (see Blumer 1954).
extent to which they offer opportunities for civilian inputs in decision-making by listening (attentively) to what they have to say (Tyler 1990, 2006: 116). Neutrality hinges on people’s desire for “unbiased decision makers”, making decisions based on pertinent objective information (Tyler 2006: 137). Thus, for example, is decision-making informed by the relevant facts or it is based on personal biases and prejudice? The notion of trustworthy motives refers to “inferences about the intentions behind actions, intentions that flow from a person’s unobservable motivations and character” (Tyler and Huo 2002: 61). Quality of interpersonal treatment, on the other hand, encapsulates judgments that an individual has been treated with appropriate dignity and recognition as a person, including (where relevant) recognition of the person’s particular needs and characteristics. Bottoms and Tankebe (2012: 145) describe this component as the “more personal” of the elements, focused on “whether the decision-maker treats the subject in a true sense as a human being, with needs for dignity, privacy, respect for his or her moments of weakness, and so on”.

Procedural justice appears empirically important because it conveys symbolic cues about a person’s membership in society. As Tyler put it:

Although politeness and concerns for one’s rights seem like minor aspects of an interaction with a legal authority, they convey considerable information about status within the group. When the police harass members of minority groups, the poor, or the young, they are communicating to those groups that they have marginal social status (Tyler 2006: 176).

A number of correlational studies have shown that perceived procedural justice nurtures law-abiding behaviour and positive legal orientation (for example, Slocum and Wiley 2018; Tankebe et al. 2016). Using data from England and Wales, Jackson and his colleagues found evidence of positive association between procedural justice judgements and predispositions to comply with the law (Jackson et al. 2012). However, Augustyn (2015) reported that, among a sample of adolescent offenders, procedural justice increased frequency of offending adolescent onset offenders. Similarly, Tankebe et al. (2019) reported that, on its own, procedural justice did not correlate with commercial vehicle drivers’ self-reported violations of traffic rules; however, an interaction effect between procedural justice and corruption experiences increased the likelihood of traffic violations.

A much smaller body of research have applied experimental designs to test the effects of fairness treatment on orientations to legal authorities. In Queensland (Australia), Mazerolle and her colleagues tested the effects of procedural justice treatment on various attitudes of drivers stopped for breath tests (Mazerolle et al. 2013). They found that drivers who experienced procedurally just traffic stops were more likely than those in a control group to express intentions to comply with traffic laws. Drawing on data from factorial design study in the United States, Reisig et al. (2018) tested the effects of procedural injustice by police officers in the contexts of

2 Augustyn argued that fair and respectful experiences might have led the adolescents to form the view that interactions with courts and the police were not ‘that bad’ and, therefore, future interactions are not to feared.
traffic stops and noise complaints among a sample of undergraduate students in the United States. They found that exposure to procedural injustice undermined the propensity to accept police decisions and to comply with directives by officers. Similarly, Lowrey et al. (2016) tested the effects of fair treatment by showing videos of procedurally just and procedurally unjust traffic encounters to a sample of undergraduate students at universities in the United States. Consistent with other studies, trust in the police was greater among those who viewed procedurally just videos than those viewing procedurally unjust videos.

In specific area of terrorism policing, the studies have been correlational in design. Murray, Mueller-Johnson and Sherman (2015) found that areas with high concentrations of violent extremism were also hotspots of low confidence in the police. Analysing data from a telephone survey of Muslim Americans in New York City, Tyler et al. (2010) found that perceptions that police anti-terror practices were procedural just increased people’s willingness to cooperate with the police to fight terrorism. In Australia, Murphy, Cherney and Teston (2019) analysed data from 800 Muslims on their support for counter-terrorism policing. They found that procedural justice perceptions increase people’s willingness to report terrorism activities to the police. Further, feelings of social inclusion were found to predict intentions to report terrorism. Jonathan-Zamir et al. (2016) administered a questionnaire to a sample of 1970 Arab Israeli, Jewish Israeli and foreign passengers at an airport in Israel to test the influence of procedural justice on reactions to enhanced security screening tactics. They found that experiencing the screening as being procedurally just decreased the feeling of humiliation, intimidation and insensitivity. Finally, Doosje et al. (2013) surveyed 131 Dutch Muslim youths to investigate their views on violent extremism by fellow Muslims and their own violent intentions. They found that perceived procedural injustice weakened the bonds between the youths and Dutch society, which, in turn, increased their acceptance of violence by fellow Muslims.

In summary, the procedural justice component of legitimate power places emphasis on the perceived morality of processes in the use of authority. The key moral ingredients are participatory decision-making, respectful and dignified treatment, neutrality, and the trustworthy motives of power-holders. These moral judgments have been shown to induce a feeling of obligation to obey rules and institutions, which, in turn, leads to actual and intended behaviours across different settings. However, while the research evidence predominantly supports the theoretical arguments, the literature is not without limitations. Two of these are pertinent here.

The first concerns evidence of contextual influences such that procedural justice offers “no simple recipe for winning legitimacy” (Waddington et al. 2015: 212; see also, Worden and McLean 2017). Waddington and his colleagues found, through analyses of public evaluations of videos of police behaviour, that a history of difficult police-public relations can mean people enter interactions with *priors* that sometimes neutralise the effects of procedural justice. Tyler (2000) also showed that, when people have strong bonds with subgroups, procedural justice tended to be a secondary normative expectation when they interacted with power-holders. Second, there are concerns about the evidence base for procedural justice theory,
especially as this relates to crime prevention. Thus, in their review of the evidence, Weisburd and Majmundar (2018: 8) conclude that:

There is currently only a very small evidence base from which to support conclusions about the impact of procedural justice policing on crime prevention. Existing research does not support a conclusion that procedural justice policing impacts crime or disorder outcomes. At the same time, because the evidence base is small, the [Committee on Proactive Policing] also cannot conclude that such strategies are ineffective (see also Nagin and Telep 2017).

Consequently, the evidence requires us to adopt an agnostic position on the effects of procedural justice on criminal involvement. The two limitations are not mutually exclusive: contextual and relational variations add to the challenges of building more robust evidence base for procedural justice. Additionally, the predominance of correlational studies over those using experimental designs makes it difficult to establish causal links. In using a factorial experimental design to test procedural justice effects among a national sample of Muslims, the current study represents a major step in addressing some of the limitations in the literature.

Terrorism and Counter-Terrorism in the United Kingdom

Terrorism, in its various forms, have a long history in the United Kingdom. However, the most recent history dates to the London underground bombings of July 2005 which killed 52 people. These were followed by other attempted and successful attacks. For example, in May 2017, a young man detonated homemade bomb as young people made their way out of musical concert in Manchester, killing 22 of them. It was one of five attacks in 2017, including those at Westminster Bridge and the Houses of Parliament in London, resulting in 36 deaths. According to official statistics, there were 2029 terrorism arrests between 2010 and 2017 in Great Britain, and a further 500 ongoing investigations, involving 3000 individuals (Home Office 2018).

The counter-terrorism strategy for the United Kingdom, known as CONTEST, has four strands: prevent (“stop people from becoming terrorists or supporting terrorism”); pursue (stop terrorist); protect (“strengthen … protection against a terrorist attack”) and prepare (“mitigate the impact of a terrorist attack”) (Home 2018: 8). These strands translate into various everyday policing tactics such as stop and searches for the purposes of terrorism prevention. The most notable counter-terrorism legislations include Terrorism Act 2000, Terrorism Act 2006, and Counter-terrorism and Security Act 2015. Section 43 of Terrorism Act 2000 grants police constables the power to stop and search a person whom they “reasonably suspects to be a terrorist to discover whether he has in his possession anything which may constitute evidence that he is a terrorist.” Between June 2017 and June 2018, the London Metropolitan police stopped and searched 644 people under this legislation. For the whole of 2017, 767 searches were conducted in London under s.43.
Whether they are for the purposes of tackling terrorism or other offences, stop and search powers allow officers to “allay or confirm suspicions about individuals without exercising their power of arrest” (PACE Code of Ethics, 2015). The use of these statutory powers is governed by a code of practice. It entreats officers to act with fairness and respect towards persons subject these powers, and to eschew harassment and discrimination. However, there is often a gap between the law and practice. According to Bowling and Phillips (2007):

The power to stop and search is an investigative power used for the purposes of crime detection or prevention in relation to an individual suspected of a specific offence at a specific time. In practice however, police officers frequently use stop and search powers for other purposes such as ‘gaining intelligence’ on people who are ‘known’ to the police, to break up and move on groups of people, and for the purposes of ‘social control’ more generally. Although there is no basis in law for the police to use the power to stop and search for these purposes, the practice is widespread (p. 938).

Research evidence shows that most of police stop and search practices produce false positives. Ariel and Tankebe (2018) analysed five-year data from a police force in England and found that 66 percent of police stop and search activities resulted in no action taken against those individuals – no warnings, formal advice, or arrests. Of the 767 s.43 searches conducted in London in 2017, only 8 percent resulted in arrests (Hill 2018). However, false positives are only one of many concerns about the use of stop and search powers in the UK: for example, there are concerns that the police disproportionately target minorities and treat them in ways that are disrespectful and undignified. Thus, on the former, Hargreaves (2018) analysed stop and search data between 2006 and 2011 and found that pedestrians who self-identified as Muslim were at a slightly higher risk of being stopped. He further found that such stops for Muslims were eight times more likely than those for any other ethnic or religious groups to result in searches.

Loader (2006: 211) has put it thus:

*Every stop, every search, every arrest, every group of youths moved on, every abuse of due process, every failure to respond to call or complaint, every racist snub, every sexist remark, every homophobic joke, every diagnosis of the crime problem, every depiction of criminals – all these send small, routine, authoritative signals about society’s conflicts, cleavages, and hierarchies, about whose claims are considered legitimate within it, about whose status identity is to be affirmed or denied as part of it* (emphasis added).

Loader’s claims chimes with Tyler’s (2011) assertion that routine interactions between police officers and civilians are teachable moments that might contribute to nurturing or squandering legitimacy. In their analysis of survey data from young people about their stop and search experiences in New York City, Tyler et al. (2014) found that perceived unfairness of these proactive contacts undermined attitudes towards the police. In the UK, Bradford (2017) finds that police stops perceived as unfair undermine overall legitimacy assessments of the police. Thus, what emerges from this brief excursus is the fraught nature of police stop and search powers, and the implications for people’s reactions to the law. What remains unexamined is how far exposure to procedurally (un)just stops affect perceived risk of terrorism recruitment. The results presented below offer some insight.
Data and Methods

To test the hypothesis that procedural injustice affects perceived risk of recruitment into terrorism, we needed an experiment that revealed the causal relationship. Factorial surveys allowed us to accomplish that objective. They involve vignettes that provide “short descriptions of a person or a social situation which contain precise references to what are thought to be the important factors in the decision-making or judgment-making processes of respondents” (Alexander and Becker 1978: 94). Factorial surveys are particularly useful in situations in which there are challenges to conducting actual experimental manipulations. It was precisely the situation we faced: it was impossible to obtain police approval randomly to assign officers in procedural justice scripts for the purposes of testing their effects on risk of recruitment. Although, factorial designs have their weakness (see Wallander (2009) for an overview of these designs), they have “the ability to establish causal inference and isolate underlying mechanisms while using realistic contexts that alleviate potential concerns about external validity” (Schilke and Rossman 2018: 10).

The Procedure

The study took place between February and March 2018. We contracted a private research company, Survation, to conduct a nationwide telephone survey of adult (18 and older) Muslims in the United Kingdom. The sampling process involved selecting small geographic units called ‘lower super output areas’ (LSOA) in which people self-identifying as Muslims constituted at least 20 percent of the residents. This information came from the 2010 national census data. All postcodes belonging to the selected LSOAs were extracted from a database of active residential postcodes and the contact details of the residents were retrieved. Survation has developed a strong ability for targeting through telephone specific individuals according to their socio-demographic characteristics, increasing the possibility of generating a representative sample of the population. In total, 1019 Muslims responded to researchers’ phone calls of which 798 agreed to participate in the study, representing a take-up rate of 78.3 percent. Of the 221 who declined involvement, 93 had originally consented but dropped out later in the study; the rest did not start at all.

The researchers explained the purpose of the study and that it was entirely voluntary and anonymous. Each participant was required to indicate expressly whether they understood the information provided and were happy to consent to take part in the study; if they declined the researchers thanked them and the call ended. If they agreed to take part in the study, their consent was recorded, and the interview started with initial questions on age, gender, educational attainment and employment status. The participants were not offered any incentives for participating in the study.

The study involved four scenarios and each research participant was randomly assigned to receive only one. The first scenario depicted a fictitious street interaction
between a young man and police officers in which the officer acted procedurally justly (high procedural justice condition). It read as follows:

A young Muslim man has recently been released from prison three years ago. He has since been stopped and searched several times. In recent months, the police demand additional information from him and they do so in ways that he finds respectful. The young man feels the officers show care for his well-being and always listen carefully to what he has to say for himself.

The second scenarios also involved a street stop but low in procedural justice:

A young Muslim man has recently been released from prison three years ago. He has since been stopped and searched several times. In recent weeks, the police demand additional information from him and do so in a way he finds disrespectful. He feels the officers show no care for his well-being and they do not take time to listen to what he has to say for himself.

The third and fourth scenarios described police raids at a Muslim family in which a young man was arrested on suspicion of terrorism. Given the nature of counter-terrorism raids, the experimental treatment focused on police actions after the raid. The high procedural justice raid condition read as follows:

A family home of one of your friends is raided at night by a special counter-terrorism unit of police officers, which involved the breaking of the front door. The police entered in their riot gear, guns and masks. This caused disruption and fear in the family who felt violated by the police. A young man was arrested but later released without a charge. A police officer came to the house the next morning to explain the reasons why the officers had carried out the night time raid, and to listen to the concerns of the family.

In the low procedural justice condition, the research participants were read the following scenario:

The family home of one of your friends is raided at night by a special counter-terrorism unit of police officers, which involved the breaking of the front door. The police entered in their riot gear, guns and masks. This caused disruption and fear in the family who felt violated by the police. A young man was arrested but later released without a charge.

After reading out each scenario, participants were each asked questions that measured perceived risk of recruitment into terrorism. The questions were: (1) “How likely is it that this young man will be attracted to beliefs that justify the use of violence to bring change in society?”; (2) “How likely is it that this young man will engage in violent activity as a way to bring change in society?”; and (3) “How likely is it that this young man’s experience will lead him to support violent activity as a way to bring change in society?” the response options ranged from 0 = Not likely at all to 3 = Extremely likely. The Cronbach alpha reliability score was 0.68 for the police stops and 0.61 for police raids.

Basic Sample Characteristics

The age of the participants in the procedurally just police stop ranged from 18 to 74 years (M = 35.09) while procedural injustice stops ranged from 18 to 72 years (M = 33.71). In the case of counter-terrorism raid, the ages of the participants ranged
from 18 to 85 years for those in procedurally just condition \((M = 36.9 \text{ years})\) 18 to 81 years for those in the procedural unjust conditions \((M = 36.5 \text{ years})\). Gender is coded as male = 1 and female = 2. Education is dichotomised into pre-university education = 1 and university-level education = 2. Personal contacts with police was coded as ‘no contacts’ = 1 and ‘any contacts’ = 2. A description of the sample is presented in Table 1.

**Results**

Independent t-tests were used to compare the mean differences between conditions of procedural injustice and procedural justice in perceived risk of terrorism recruitment. The results are presented in Table 2. Starting with the police stops scenarios, we found that perceived risks of recruitment into terrorism was greater for those exposed to procedurally unjust stops \((M = 1.38, SD = 0.58)\) than those exposed

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<th>Table 1 Summary Statistics for Each Experimental Condition</th>
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<td>Age (Mean/SD)</td>
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<td>Education = University</td>
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<td>Personal contact = Yes</td>
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<th>Table 2 T-tests for Perceived Risk of Terrorism Recruitment</th>
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<td>Police Stops</td>
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<tr>
<td>Risk of recruitment</td>
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<td>1.21 (0.53)</td>
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<td>Terrorism attraction</td>
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Note. *p < .05, **p < .01, ***p < .001
to procedurally just police stops ($M = 1.21, SD = 0.53$). The magnitude of the difference between the two participants was small, Cohen’s $d = −0.31$. We disaggregated the measure of recruitment risk into three specific indicators: attraction to terrorism; engaging in terrorism activity; and support for terrorism. Perceived risk of attraction to terrorism did not differ between the procedurally unjust and procedurally just conditions. However, the research participants exposed to procedurally unjust police stops perceived a greater risk of the young man engaging in terrorism activity (Cohen’s $d = −0.26$) and supporting terrorism (Cohen’s $d = −0.42$) than those exposed to procedurally just police stops. Next, we consider the scenarios involving police counter-terrorism raids at a home. Overall, we found no statistically significant difference in perceptions of the risk of recruitment into terrorism between those exposed to high procedural justice condition ($M = 1.33, SD = 0.53$) and those exposed to low procedural justice raids ($M = 1.28, SD = 0.55$). Nor did any mean differences emerge around the individual disaggregated indicators of perceived recruitment risk.

**Discussion and Conclusion**

Terrorism is a major security issue for many countries. Consequently, “[u]nderstanding, predicting, and thwarting extreme behavior, particularly as it relates to violence, is one of the most challenging issues facing humankind” (Gelfand et al. 2013: 495). However, among the key issues in counter-terrorism are the risks of violent radicalisation and recruitment into terrorism and the extent to which counter-terrorism practices might be doing more harm than good. Specifically, there have been concerns that the nature of counter-terrorism can have unintended negative effects, increasing rather than reducing the risks of recruitment into terrorism.

Do counter-terrorism practices have unintended negative effects? Using a nationally-representative sample of Muslims in the United Kingdom, this chapter has reported findings from a factorial design that tested the effects of procedural (in)justice of counter-terrorism practices on perceived risks of recruitment into terrorism. The study offers interesting results with important implications for terrorism researchers, policy managers, and counter-terrorism officials. First, we used descriptive analysis to consider the perceived risk of recruitment into terrorism under conditions of procedurally (un)just conditions. We found small and statistically significant difference in perceived recruitment risk between two conditions relating to police stops, such that those exposed to procedurally unjust police stops perceived a greater risk of terrorism recruitment than those exposure to procedurally just stops.

This finding that procedurally unjust street-level encounters are perceived to pose damaging effect on terrorism prevention would seem consistent with evidence from procedural justice theory. That evidence shows that poor treatment undermines people’s actual or intended orientations to the law. In Queensland (Australia), police officers were randomly assigned to receive ‘procedural justice script’ to guide their
routine interactions with motorists. Survey data from motorists in both control and experimental conditions were analyzed to test the effects of procedural justice perceptions on people’s orientations towards the police. However, as Jonathan-Zamir, Hasisi and Margalioth (2016: 632) concluded from their study of passengers subjected to enhanced screening at an airport in Israel: “it is not the case that they can engage in any intrusive or unpleasant practice, and be perceived positively, just as long as they follow the principles of procedural justice. Some policing tactics, which we suspect are particularly harassing or suggest inequity in their distribution, will likely produce negative emotions even if they are executed in a procedurally-just fashion.” Consequently, the results presented above cannot be interpreted as evidence that the quality of experiences with security agencies play a decisive role in perceptions of the risk of unintended effects of terrorism recruitment. Indeed, the differences between our treatment groups in perceptions of risks of recruitment were small.

Procedural justice theory envisages the application of its principles in the course of specific decision-making or the general exercise of power. However, in counter-terrorism contexts, this expectation cannot be taken for granted. It sometimes happens that counter-terrorism raids occur in highly volatile and potentially dangerous contexts, leaving little opportunity for the in-situ application of procedural justice principles. This raises an important question that had hitherto been unaddressed: what effects do post-operational actions mimicking procedural justice principles have on the perceived risk of unintended negative consequences of counter-terrorism practices? We investigated this question and found no evidence that procedurally unjust post-raids affected perceived risks of terrorism recruitment.

These findings suggest two things: first, potential differences in procedural justice effects across counter-terrorism practices (street stops versus domestic raids). Second, the findings might be taken to imply that procedural justice makes no difference to public attitudes if it is a post-facto strategy of community engagement. It neither attenuates nor worsens the effects of counter-terrorism practices. It is well known that absence of evidence of effects is not evidence that the effects are absent (see, Taleb 2007). It sometimes happens that there are methodological limitations that prevent researchers from detecting effects. In the current study, it is possible that our design of the vignettes contained weaknesses. Part of the challenge is that counter-terrorism raids are a rare event, hence a difficulty in finding a sample with such experiences for a pilot study that could have improved our vignette. Future studies that address this limitation might advance our knowledge of the effects of procedural justice beyond the relatively mundane contests in which it has been tested in much of the extant literature.

To conclude, we have shown that the self-identified Muslims surveyed in the United Kingdom believed that procedurally unjust police stops increased the likelihood of recruitment into terrorism. To be sure, we measured the participants perceptions of the vulnerability of others rather than themselves. However, given the social psychological evidence that people tend to project their views onto others (for example, Kawada et al. 2004), the risk assessments might be indicative of the participants’ own propensities, and therefore what they might be tempted to do if sub-
jected to counter-terrorism practices that they perceive to be unjust. Finally, procedure is only one dimension of justice perceptions. Justice also has a substantive dimension, a point that is often underemphasised in the procedural justice literature (For an exception, see Peffley and Hurwitz 2010; Tankebe 2013; Bottoms and Tankebe 2017; McLean 2019). Critical legal theorists warn that “an appearance of justice is often fabricated, usually by those in power, and often through deceit” such that “the offer to ‘hear you out,’ to ‘invite your participation,’ to ‘listen to what you have to say (for yourself)’” sometimes distracts us from injustices in society (Cohen 1989: 32). Counter-terrorism policing is not immune to that caution.

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References


The Link Between Prior Criminal Record and Violent Political Extremism in the United States

Michael A. Jensen, Aaron Safer-Lichtenstein, Patrick A. James, and Gary LaFree

Introduction

Research on radicalization\(^1\) has progressed a great deal over the past decade, as scholars have incorporated views from economics, political science, psychology, and sociology into increasingly comprehensive explanations of violent extremism. While criminology has been somewhat slower than some of the other social sciences to fully engage in the study of radicalization and violent extremism, the situation is changing rapidly (Forst et al. 2011; LaFree and Freilich 2017). Research on political extremism now routinely appears in major criminology outlets, criminology students are defending theses and dissertations on related topics, and meetings of professional criminology associations have a strong representation of terrorism-related research. Indeed, recent efforts (Jensen et al. 2016; LaFree et al. 2018) to bring criminological insights into the study of political extremism have found that common criminological correlates explain a good deal of extremist behavior.

\(^1\)We adopt the FBI definition of radicalization as “the process by which individuals come to believe their engagement in or facilitation of nonstate violence to achieve social and political change is necessary and justified” (Hunter and Heinke 2011).
At the heart of these efforts is the question of how similar terrorism-related crime is to more ordinary types of crime. Criminologists Clarke and Newman (2006) see the overlap as complete, claiming that “terrorism is a form of crime in all essential respects.” While LaFree and Dugan (2015) substantially agree with this conclusion, they point out that there are nonetheless important differences between terrorism-related crime and more ordinary types. Perhaps most notably, in contrast to many who engage in terrorist activity, ordinary criminals rarely see their illegal actions as altruistic.

Nonetheless, it seems clear that terrorist behavior shares much with ordinary crime. Of particular importance for the future of terrorism research are the recent findings (Jensen et al. 2016, 2018; LaFree et al. 2018) that previous non-ideological criminality—a correlate that is included in most etiological studies of crime—may help distinguish extremists who participate in acts of politically motivated violence from those who commit illegal actions driven by political motives, but do not reach the threshold of violence. For example, several studies of terrorism in the United States (Gruenewald et al. 2013; Jensen et al. 2016, 2018; LaFree et al. 2018) have found that extremists are more likely to engage in violence in pursuit of their political ambitions if they have a history of engaging in criminal acts prior to radicalizing. Similar results have been found in the radicalization processes of European jihadists (Basra and Neumann 2016).

Taken as a whole, the evidence suggests that criminological perspectives emphasizing the link between previous criminality and future criminality is important for understanding political extremism. While radicalization experts have begun to explore these links, several important questions about the relationship between previous criminal behavior and extremist violence remain. For example, very little is known about how frequently extremists engage in non-ideological crimes prior to radicalizing or which crimes they are most likely to commit. Similarly, the field of terrorism studies has yet to address whether juvenile offending (in contrast to adult offending) changes the risk calculus for violence among political extremists. This chapter seeks to build on the emerging body of research that explores the relationship between established correlates of crime developed in the criminology literature and the etiology of violent extremism by addressing these questions.

Using data from the newly released Profiles of Individual Radicalization in the United States (PIRUS) database, we explore the criminal histories and extremist behaviors of nearly 1900 individuals who radicalized in the United States since 1948. Our results reveal that pre-radicalization criminal behavior, violent or non-violent, is the single strongest non-ideological predictor of post-radicalization violence among U.S. extremists. However, we find that the criminal backgrounds of U.S. extremists vary considerably depending on individuals’ ideological affiliations. Individuals on the extremist far-right, especially those motivated by white supremacist views, are substantially more likely to engage in crime prior to radicalizing than are individuals associated with other ideologies. We also find that U.S. extremists rarely specialize in specific crime types prior to or after radicalizing. Rather, individuals in the PIRUS data with criminal histories are often repeat offenders who engaged in violent and non-violent crimes or non-violent criminals who escalated to violent crime once they radicalized. Finally, we find that while the
rates of juvenile offending among U.S. extremists are not substantially higher than they are for the general population, individuals who engage in criminal activity before the age of 18 are significantly more likely than non-juvenile offenders to engage in acts of violent extremism after radicalizing.

This chapter proceeds in five sections. First, we review the criminological literature on the link between past and future crime, as well as recent attempts by terrorism scholars to bring criminological theory into the study of extremists. Second, we describe the PIRUS data and the additional data collection that we conducted to explore the link between previous criminality and violent extremism. Third, we present descriptive findings on the past criminal behaviors of U.S. extremists, including how crime rates compare across ideologies and whether juvenile crime is present at higher rates in the backgrounds of violent extremists. Fourth, we present a multivariate analysis that tests the relationships between a number of ideological and non-ideological correlates and violent extremism, including the effect that pre-radicalization crime has on the odds that an extremist will engage in violence after radicalizing. Finally, we conclude by considering the implications of this research for terrorism prevention policy and future studies of terrorism.

**Literature Review**

While terrorism studies have begun to establish links between non-ideological criminal behavior and extremism, important research gaps remain. Criminological investigations of ordinary crime often emphasize the role that previous criminality, crime diversity, and juvenile offending play in the development of criminal trajectories. In particular, these factors may be important in an offender’s evolution towards increasingly extreme forms of delinquency, including acts of criminal violence. Below, we review the criminological research on these issues and assess the extent to which they have been addressed by terrorism researchers.

**Previous Criminal Behavior**

Decades of criminological research has consistently found a robust relationship between prior deviance and subsequent criminal behavior (Blumstein et al. 1988; Loeber and Le Blanc 1990). Indeed, most actuarial assessments of sentencing, parole, and probation decisions rely on prior criminal record (Hoffman and Beck 1974; Hoffman et al. 1978; Monahan and Skeem 2015). In an influential meta-analysis of the predictors of adult offender recidivism, Gendreau et al. (1996) examined 131 prior studies and found criminal history to be among the strongest predictors of future criminal activity. Similarly, DeLisi et al. (2013) found that prior police contact and arrest were predictive of future violent crime.

But while the association between criminal record and ordinary crime is well established, there is far less research on the connection between criminal record and
political violence (Cottee 2016).\footnote{While studies at the individual-level are rare, there are numerous studies at the group-level on the terror-crime nexus (Hutchinson and O’malley 2007; Picarelli 2006, 2012; Sanderson 2004; Toros and Mavelli 2013).} Only recently, a few studies have included criminological variables in analyses predicting violent extremism. For example, Gruenewald et al. (2013) examined the correlates of far-right loner and far-right group-motivated homicides, including the impact of criminogenic factors. The authors found that 29 out of 47 (61.7%) loners and 47 out of 92 (51.1%) group-motivated extremists had prior arrests; 16 out of 29 loners (55.2%) and 21 out of 47 (44.7%) group-motivated offenders had violent criminal histories. Similarly, a recent LaFree et al. (2018) study examined correlates of violent extremism in a sample of U.S. extremists and found that 40% of the subjects engaged in crime prior to adopting extremist beliefs. These rates exceed most contemporary estimates of cumulative arrest histories in the general population (Brame et al. 2014). While there is no official measure of crime prevalence in the U.S., Brame et al. (2014) estimate that 25–41% of young adults in the U.S. have an arrest history (though subsequent research has found that these rates vary significantly across measures of gender and race) and the Federal Bureau of Investigation maintains felony arrest records for approximately one third of the U.S. population (Clark 2017). Substantial evidence of prior criminal records among political extremists has been reported by national police and intelligence agencies outside of the U.S. as well. For example, officials from Germany, Norway, and the Netherlands reported that more than 60% of the individuals that traveled from their countries to join the Islamic State in Syria and Iraq had previous criminal records (Basra and Neumann 2016).

Importantly, recent studies (Jensen et al. 2016, 2018; LaFree et al. 2018) have found that non-ideological criminal behavior prior to radicalization often distinguishes violent from non-violent extremists. For example, in a multivariate study, LaFree et al. (2018) discovered that U.S. extremists with criminal backgrounds were significantly more likely to adopt violence after radicalizing than were extremists without crime histories. Similarly, using an expanded and updated sample, Jensen et al. (2018) built on the LaFree et al. study and found that previous crime was the strongest non-ideological predictor of post-radicalization violent extremism when comparing more than 1800 violent and non-violent U.S extremists. Both the LaFree et al. and Jensen et al. studies used large samples and controlled for a number of ideological and non-ideological factors, indicating that the link between pre-radicalization crime and post-radicalization violence is robust.

**Crime Specialization and Diversity**

Criminologists have long investigated whether criminals specialize in specific types of criminal behavior or whether they are generalists who engage in diverse forms of crime and delinquency. While not all research supports the vision of ordinary
criminals as generalists (Kempf 1987; Lussier et al. 2005; Shover 1996), a growing consensus in the research on criminal trajectories finds that while there is some evidence of specialization, most criminal careers are marked by “versatile offending patterns” (Blumstein et al. 1986, p. 455; Piquero et al. 2003; Wolfgang et al. 1972). For example, in a study of a Philadelphia youth cohort, Piquero (2000) found that there was no evidence for specialization in offending. Rather, some non-violent offenders eventually engaged in acts of criminal violence in addition to increasing their offending frequency as they grew older. However, more recent research suggests that offending over the criminal career may vary considerably (Deane et al. 2005; Shover 1996; Steffensmeier and Ulmer 2005; Sullivan et al. 2006). For example, it appears that both individual-level propensity to commit crime, as well as changes in life circumstances (e.g., employment, marriage, drug and alcohol use), impact patterns of offense specialization/versatility in the short term (McGloin et al. 2007).

While research on criminal specialization may provide valuable insights into the processes by which extremists evolve from engaging in more ordinary types of non-violent crime to acts that are intended to injure or kill, only a few terrorism studies to date have touched on this issue. For example, in a study of 79 European jihadists with criminal records, Basra and Neumann (2016) found that the majority had committed petty crimes prior to plotting domestic terrorist attacks or traveling to fight in foreign conflicts. Similarly, Jensen et al. (2018) found that many individuals who went on to commit acts of political violence in the United States had previous criminal records that were limited to non-violent crimes, such as theft and drug offenses. Although these studies have begun to address the criminal life-course of extremists, there is a near absence of information on the non-ideological crime patterns of those who have committed terrorism. Thus, there are very few studies that provide criminal offending rates for political extremists or offer data on the types of crimes that political extremists engage in prior to radicalizing. Moreover, there are few comparisons of the criminal pasts of non-violent and violent extremists, including whether multiple offending or criminal diversity is more or less prevalent in their backgrounds.

Age of Onset and Violent Crime

In the 1980s and 1990s, a great deal of criminological research concentrated on understanding the impact of early offending on the nature, severity, and duration of criminal activity over an individual’s life-course (Blumstein et al. 1986; Farrington 1992; Laub and Sampson 1993). Unsurprisingly, the results of this research showed that the age of onset of criminal activity is a reliable predictor of a number of future criminal outcomes. For instance, in Glueck and Glueck’s (1950) classic analysis of 500 boys growing up in Boston, the authors found that age of onset was significantly related to both criminal career length and frequency of offending. Further, in Wolfgang et al.’s (1972) influential Philadelphia study, the authors found that early
age of onset was related to both the persistence and severity of offending. That is, individuals who committed their first crime at an earlier age were significantly more likely to commit serious offenses in the future. The relationship appears to be so robust across studies and variables (Hingson et al. 2006; Kaplow and Widom 2007; Robins and Przybeck 1985) that some scholars declare age of onset to be the best predictor of the future course of one’s criminal career (Blumstein et al. 1985; Gottfredson and Hirschi 1990).

While there is a growing body of terrorism research that looks at the recruitment of children into extremist organizations (Beber and Blattman 2013; Rosen 2005), we are unaware of any studies that examine the relationship between juvenile non-ideological crime and later involvement in violent extremism.

Research Questions

While the previous studies (Jensen et al. 2016, 2018; LaFree et al. 2018) that have explored pre-radicalization criminality and post-radicalization violent extremism offer promising insights into the processes of radicalization to violence, important research gaps remain. In particular, past studies have not estimated the strength of the association between past non-ideological crimes and acts of political violence, relying instead on descriptive analyses and case studies. Nor has extant research analyzed the particular types of crime or offender characteristics that may be linked to a greater propensity for violent extremism. To fill these gaps, this chapter addresses the following questions:

• How does the risk calculus for violent extremism change if an individual has a history of non-ideological criminal behavior? Is an individual with a history of non-ideological violent offending at a greater risk of engaging in violent extremism once they have radicalized?
• Are there significant cross-ideological differences in the criminal histories of U.S. extremists?
• Which pre-radicalization non-ideological criminal behaviors are most prevalent among extremists with criminal histories?
• Are individuals who commit non-extremist crimes as juveniles at an increased risk for engaging in violent extremism once they have radicalized?

Data

Data for this study were drawn from the Profiles of Individual Radicalization in the United States (PIRUS) dataset, which contains individual-level information on the backgrounds, attributes, and radicalization processes of 1867 violent and non-violent U.S. political extremists. The PIRUS data include individuals who adhered
to far-left, far-right, Islamist, or single-issue ideologies and radicalized in the United States from 1948 to 2016. The PIRUS data were collected using publicly available sources, with priority given to information from well-regarded and reliable sources, such as professional news media outlets, unsealed court records, and unclassified government reports. In addition, researchers used websites that had uncertain reliability but contained links to reliable documents, such as court transcripts.

START researchers compiled the PIRUS dataset over multiple waves of data collection between 2013 and 2017. During the data collection phase, trained researchers double-coded approximately half of the sample (described below) in order to increase the overall quality of the data, as well as to assess the reliability of the coding instrument. At the end of each coding wave, researchers performed Krippendorf’s alpha procedure to test for inter-rater reliability across the double-coded cases (Krippendorf and Hayes 2007). Each wave scored above a 0.7, which indicates acceptable reliability for social science applications. After conducting reliability tests, project leaders reviewed all instances of discrepant coding and made a final coding decision that best represented information available in the open sources and most closely aligned with definitions laid out in the PIRUS codebook.

To be included in the PIRUS dataset, individuals must meet three requirements: (1) their radicalization began or occurred primarily in the United States; (2) they espoused clearly identifiable ideological motives; and (3) their terrorism related behavior was linked to the ideological motives they espoused. In addition to these criteria, individuals must meet at least one of the following criteria: (4a) they were arrested; (4b) indicted of a crime; (4c) killed as a result of their ideological activities; (4d) were a member of a designated terrorist organization; or (4e) were associated with an organization whose leader(s) or founder(s) has been indicted of ideologically motivated violent offenses.

Many studies of political violence based on open source data have substantial amounts of missing data on key variables (Chermak et al. 2012; Dugan and Distler 2016; LaFree et al. 2018; Safer-Lichtenstein et al. 2017). While our main dependent variable—violent/non-violent—and several other variables (gender, ideology, and exposure year) include no missing values, the remaining variables have a wide range of missing data. At the most extreme, one variable—presence of a radical family member—is missing data in more than 80% of the cases. Three additional variables (stable employment history, education level, and presence of rival groups) are missing in more than 60% of the cases. For the descriptive analysis we simply exclude cases with missing data. For our multivariate analysis we estimate models using regression-based multiple imputation (Rubin 2004). This process is described in greater detail below.

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3 For a detailed explanation of these ideological categories, see http://www.start.umd.edu/sites/default/files/files/research/PIRUSCodebook.pdf

4 For additional details on the PIRUS dataset and data collection methodology, please refer to the project’s final report, available at https://www.start.umd.edu/pubs/START_NIJ_EmpiricalAssessmentofDomesticRadicalizationFinalReport_Dec2016_0.pdf
Of the individuals in PIRUS, we classified 1103 (59.1%) as violent extremists, defined as individuals who conspired to or committed acts intended to kill or injure, while 764 (40.9%) were coded as non-violent extremists, defined as individuals who limited their extremist acts to those which did not threaten others’ physical wellbeing, including vandalism, illegal protest, material support, and the destruction of uninhabited property.

A subset of 397 (21.3%) individuals in PIRUS were coded as having pre-radicalization criminal histories, which we define as any criminal act (aside from non-felony drug use or moving traffic violations) with a non-ideological motive that was committed before an individual adopted an extremist belief system. Neither arrest nor conviction were required for an individual to be coded as committing pre-radicalization criminal offenses, although in most cases the individual did have some kind of interaction with the criminal justice system. Individuals were also coded as having a criminal history if they self-reported engaging in criminal acts prior to radicalizing, even if they were never arrested or charged for a crime. In order to address the research questions described above, we added several additional variables to the PIRUS data for each individual in the subsample:

- **Previous criminal activity**: an ordinal variable that records the most extreme crime that an individual committed prior to radicalizing: 0 = no previous criminal history, 1 = misdemeanor non-violent crime; 2 = felony non-violent crime; 3 = any violent crime.
- **Criminal activity type**: a categorical variable that captures the nature of criminal offenses that an individual committed prior to radicalizing.\(^5\)
- **Criminal activity age**: a categorical variable that captures the age at which an individual was first known to engage in non-ideological crime: 1 = under 18 years old, 2 = 18–24 years old, 3 = 25–34 years old, 4 = 35–44 years old, 5 = 45 years old and older.

**Descriptive Results**

We begin with a descriptive analysis of crime rates for individuals in PIRUS, as well as a comparison of the criminal histories of perpetrators across different ideological milieus. This allows us to provide a detailed examination of the sub-ideological affiliations of individuals in PIRUS with histories of pre-radicalization crime. We then analyze the specific types of crime that were most common in the pre-radicalization histories of the individuals in PIRUS, paying particular attention to the crimes that were most prevalent in the backgrounds of violent extremists. Finally, we examine the nexus between age of criminal onset and the likelihood that individuals engage in acts of political violence after they have adopted an extremist belief system.

\(^5\) If an individual committed more than three crime types, coders were instructed to select the three most serious offenses and list the remaining offenses in an additional text box.
belief system. In particular, we assess whether there is a significant link between juvenile non-ideological delinquency and post-radicalization violent extremism.

**Pre-radicalization Crime Rates of U.S. Extremists**

As noted above, we found that 397 (21.3%) subjects engaged in at least one criminal act prior to radicalizing. Of the remaining cases, 608 (32.5%) were confirmed to have no prior criminal record, while 862 (46.2%) were coded as “unknown” for criminal history due to incomplete source documents. Below we discuss in greater detail the strategies we use to compensate for these missing values and how they impact our results. Of the 397 individuals in PIRUS who were coded as having pre-radicalization criminal records, 200 (50.4%) engaged exclusively in non-violent crimes, such as drug offenses, theft, and vandalism. The remaining individuals were divided between those who engaged exclusively in violent criminal acts (n = 78; 39.6%) and those who committed a mix of violent and non-violent crimes (n = 119; 60.4%). Nearly half (48.9%) of the individuals in PIRUS with criminal histories engaged in multiple crimes prior to engaging in ideologically motivated criminal behavior.

In Fig. 1, we compare non-violent and violent political extremists who have no criminal history, a non-violent criminal history, and a violent criminal history. Approximately 44% of the violent extremists and 32% of the non-violent extremists in PIRUS committed at least one criminal offense prior to radicalizing. Further, the data reveal important differences in the criminal histories of violent and non-violent extremists. For example, individuals who went on to engage in acts of violent extremism after radicalizing were significantly more likely to have committed acts

![Fig. 1 Rates of pre-radicalization crime in the PIRUS database](image-url)
of violent crime prior to radicalizing than their non-violent extremist counterparts. Nearly 25% of the violent extremists in PIRUS had pre-radicalization criminal histories that included acts of violence, whereas violent crime was only present in the criminal histories of 12% of non-violent extremists.

In Table 1, we compare the criminal histories of the individuals in PIRUS. The results show considerable variation across our four primary ideological categories: far-right, far-left, Islamist, and single-issue extremists. According to Table 1, far-right extremists in the PIRUS data display the highest rates of pre-radicalization crime, including the highest rates of previous violent offenses. While only 54% of far-right extremists in PIRUS had no criminal history, 72% of far-left extremists, 70% of single-issue extremists, and 66% of Islamists had no prior criminal activity. Approximately 27% of far-right extremists in the data had criminal histories that included acts of violent crime, such as homicide, armed assaults, and sexual violence. By comparison, 17% of Islamists, 15% of far-left extremists, and 13% of single-issue extremists had criminal histories that included violent crime. Interestingly, while individuals on the far-left commonly engaged only in acts of non-violent political extremism after radicalizing (64.8%), those with criminal histories often (53.5%) committed acts of violent non-ideological crime prior to radicalizing. Nearly 35% of the Islamist extremists in PIRUS engaged in criminal acts prior to radicalizing. Those with pre-radicalization criminal histories were evenly split between those whose criminal acts were limited to non-violent offenses and those whose crimes included acts of violence. Finally, 30% of individuals in PIRUS who were classified as single-issue extremists had histories of criminal behavior prior to radicalizing, including 13% who committed acts of violent crime.

In Table 2, we examine the extremists in PIRUS with criminal histories according to their sub-ideological affiliations. According to Table 2, the high rate of previous criminality on the far-right is primarily driven by individuals who harbored white supremacist or Neo-Nazi views. Indeed, nearly 65% of far-right extremists in PIRUS with previous criminal records eventually radicalized to adopt beliefs of white racial supremacy. Extremists who expressed anti-government views, such as Sovereign Citizens, also constitute a substantial portion (32.8%) of the far-right cases in PIRUS with previous criminal histories.

Similar patterns of previous criminality are also found for the other sub-ideologies. For example, individuals affiliated with the Black nationalist/separatist movements of the 1960s and 1970s make up the largest portion (50%) of extremists

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Table 1 Rates of criminal histories among individuals in PIRUS (by primary ideology)

<table>
<thead>
<tr>
<th></th>
<th>Far-right</th>
<th>Far-left</th>
<th>Islamist</th>
<th>Single-issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>No criminal history</td>
<td>45.76%</td>
<td>71.93%</td>
<td>65.96%</td>
<td>70.20%</td>
</tr>
<tr>
<td>History of misdemeanor non-violent crime</td>
<td>13.28%</td>
<td>8.77%</td>
<td>9.42%</td>
<td>10.60%</td>
</tr>
<tr>
<td>History of felony non-violent crime</td>
<td>14.12%</td>
<td>4.09%</td>
<td>7.60%</td>
<td>5.96%</td>
</tr>
<tr>
<td>History of violent crime</td>
<td>26.84%</td>
<td>15.20%</td>
<td>17.02%</td>
<td>13.25%</td>
</tr>
</tbody>
</table>

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6 For detailed descriptions of the ideological categories, see Jensen et al. (2016).
on the far-left with pre-radicalization criminal histories. Islamist extremists in PIRUS with pre-radicalization criminal backgrounds appear to be evenly divided between those who aligned with or were inspired by Al-Qaeda and its associated movements (AQAM) and those who aligned with or were inspired by the Islamic State of Iraq and Syria (ISIS; 30.3% and 36.6% respectively). Previous criminality among single-issue extremists in PIRUS is most prevalent in the backgrounds of anti-abortion extremists.

### Table 2 # of individuals in PIRUS with criminal histories (by sub-ideology)

<table>
<thead>
<tr>
<th>Ideology/sub-ideology</th>
<th># of individuals with criminal history</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Far-right</strong></td>
<td></td>
</tr>
<tr>
<td>Militia/gun rights</td>
<td>22</td>
</tr>
<tr>
<td>White supremacist/KKK/Neo-Nazi</td>
<td>124</td>
</tr>
<tr>
<td>Xenophobic/anti-immigrant</td>
<td>13</td>
</tr>
<tr>
<td>Anti-government/Soevereign Citizens movement</td>
<td>63</td>
</tr>
<tr>
<td>Christian identity</td>
<td>10</td>
</tr>
<tr>
<td><strong>Far-left</strong></td>
<td></td>
</tr>
<tr>
<td>Animal rights/environmentalist</td>
<td>11</td>
</tr>
<tr>
<td>New Left (1960’s student movements/anti-Vietnam War)</td>
<td>7</td>
</tr>
<tr>
<td>Black nationalist/black separatist</td>
<td>24</td>
</tr>
<tr>
<td>Anti-capitalist/communist/anti-imperialist</td>
<td>6</td>
</tr>
<tr>
<td>Anarchist</td>
<td>7</td>
</tr>
<tr>
<td><strong>Islamist</strong></td>
<td></td>
</tr>
<tr>
<td>Al-Qaeda affiliated/inspired</td>
<td>34</td>
</tr>
<tr>
<td>Islamic State affiliated/inspired</td>
<td>41</td>
</tr>
<tr>
<td>Unaffiliated Salafist/other</td>
<td>37</td>
</tr>
<tr>
<td><strong>Single-issue</strong></td>
<td></td>
</tr>
<tr>
<td>Puerto Rican independence/Puerto Rican nationalist</td>
<td>1</td>
</tr>
<tr>
<td>Cult/idiosyncratic</td>
<td>2</td>
</tr>
<tr>
<td>Anti-abortion</td>
<td>21</td>
</tr>
<tr>
<td>Anti-gay</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>18</td>
</tr>
</tbody>
</table>

*Note: Subjects can be coded for more than one ideological subcategory*

Figure 2 shows the range of criminal activities that the perpetrators in PIRUS engaged in prior to radicalizing. These behaviors included a number of violent offenses, such as homicide, assault, and sexual violence, and a long list of non-violent crimes, including drug offenses, theft, vandalism, and fraud.
Aggravated assault was the most common crime type for those in the PIRUS data who engaged in criminal acts prior to radicalizing. Nearly 23% of extremists with criminal histories in PIRUS committed at least one aggravated assault before radicalizing. Aggravated assaults were more common in the criminal histories of violent extremists, with nearly 27% engaging in this crime versus 14% for non-violent extremists. The rates of aggravated assault were similar across the ideological groups in PIRUS. Just over 22% of Islamists, 25% of far-right extremists, and 27% of far-left extremists with criminal histories committed at least one aggravated assault prior to radicalizing.

Of the extremists in the PIRUS data who had a history of violent crime prior to radicalizing, 12.7% committed acts of domestic violence (although this may be a conservative estimate given that instances of domestic violence may not be reported or may appear in sentencing records only as assault and/or battery charges). Other violent crimes found in the backgrounds of the individuals in PIRUS include simple assault (15.1%), robbery (14.1%), homicide (5.2%), and sexual assault (2.5%).

Of the violent extremists in PIRUS with criminal histories, 44.3% limited their criminal activities to non-violent offenses. The most common non-violent crime in the backgrounds of the individuals in PIRUS was the use, possession, or distribution of illicit drugs. In fact, drug-related charges were the second most common pre-radicalization crime type for extremists in the PIRUS data with criminal histories. More than 18% of the extremists in the data with criminal histories engaged in at least one illegal act involving illicit drugs prior to radicalizing. Drug offenses were relatively more common among violent extremists in the data: over 20% of violent extremists with criminal histories had drug offenses on their criminal records compared to 13% for non-violent extremists.

**Fig. 2** Involvement in pre-radicalization criminal behaviors among U.S. extremists. (Note: Arson can be classified as either a violent or non-violent crime depending on whether the intention of the act was to kill or injure)
The individuals in PIRUS engaged in a number of other non-violent criminal acts, including illegal firearms possession (20.4%), fraud (14.7%), theft (13.9%), and driving under the influence of alcohol (9%). Larceny-theft was the single most common pre-radicalization crime type for non-violent extremists in PIRUS. Nearly 15% of non-violent extremists in the database committed at least one known theft prior to radicalizing. This outpaced other common crime types for non-violent extremists, including aggravated assault (14%), drug offenses (13%), and simple assault (12%).

The pre-radicalization criminal behaviors of a small percentage (14.1%) of the extremists in PIRUS were tied to their involvement in street gangs or criminal organizations. Of the individuals with past ties to street gangs, approximately 80% went on to engage in acts of violent extremism after radicalizing.

Taken together, the data on pre-radicalization crime patterns and offenses in PIRUS suggest that political extremists rarely specialize in specific crime types. The individuals that we examined who committed criminal offenses prior to radicalizing engaged in a wide range of criminal acts, from less serious forms of delinquency, such as theft and drug possession, to more serious forms of violent crime, including assaults and homicides. Moreover, many individuals in the PIRUS data gradually escalated in their criminal activities from non-violent offenses prior to radicalizing to violent acts after adopting extremist beliefs. By contrast, some individuals, especially those affiliated with far-left groups, limited their extremist activities to non-violent crimes, even though many committed violent offenses prior to radicalizing.

Age of Crime Onset

In Fig. 3, we list the average age of earliest criminal activity for individuals with criminal records for both violent and non-violent political extremists. The PIRUS data show that, on average, U.S. extremists are well into adulthood when they first engage in ideologically motivated acts. For example, violent extremists in PIRUS were on average 33 years old when they first participated in illegal acts on behalf of their extremist beliefs. However, the same individuals in PIRUS were often much younger when they first engaged in non-ideological crime. In fact, 62.1% of the extremists in PIRUS with criminal histories first engaged in non-ideological crimes when they were 24 years old or younger. Most commonly, the extremists in PIRUS first committed non-ideological crimes when they were between 18 and 24 years old. Specifically, 44.6% of violent extremists and 43.9% of non-violent extremists in PIRUS with criminal histories first engaged in criminal acts when they were 18–24 years old.

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7 See Pyrooz et al. (2017) for a detailed study of the connections between gang involvement and extremism in the PIRUS dataset.
While less common, the rates of juvenile crime among the individuals in the PIRUS data nonetheless reveal important differences in the backgrounds of violent and non-violent extremists. Approximately 17% of the extremists in PIRUS with pre-radicalization criminal histories first engaged in crime when they were under the age of 18 years old. However, those who went on to commit acts of violent extremism show significantly higher rates of juvenile offending. Nearly 22% of violent extremists with criminal histories began engaging in criminal acts when they were under the age of 18. In comparison, less than 10% of non-violent extremists with criminal histories engaged in crime when they were juveniles.

Multivariate Analysis

To better assess the relationship between pre-radicalization crime and post-radicalization violence, we next performed a multivariate logit regression analysis that estimates how the likelihood of violent extremism changes if individuals engage in crime prior to radicalizing. Before moving on to the results of this analysis, we first provide brief descriptions of the dependent, independent, and control variables that are used in the model. We have already described the main dependent variable, violent, coded “1” for individuals whose earliest public exposure involved an act of violence or the intention to commit an act of violence, and “0” for individuals whose earliest public exposure involved only non-violent acts.

Our main independent variable for this part of the analysis is prior criminal activity, which is coded “1” for participation in violent crime, “0.5” for participation in non-violent crime, and “0” for no criminal participation prior to involvement in extremist activities.
Control Variables

For our multivariate analysis, we include a number of theoretically relevant control variables drawn from prior research. Stable employment is coded “1” for individuals who worked regularly prior to engaging in acts of extremism and “0” for individuals who were unemployed, alternated between periods of employment and unemployment, or habitually changed careers in the years leading up to their involvement in extremism. Education is an ordinal measure that captures the highest level of education attained by individuals at the time they engaged in illegal acts. Individuals were coded “3” if they received a college degree or higher, “2” if they attended college but did not graduate, “1” if they finished high school, or “0” if they did not graduate from high school. Marital status is coded “1” for individuals with a legally-recognized spouse or domestic partner and “0” for divorced or widowed individuals and those who never married. Individuals who were once active in the military but were discharged before they engaged in extremism were coded “1” for past military experience and “0” otherwise. Those on active military duty at the time of their public exposure were coded “1” for active in military and “0” otherwise.

We coded individuals who were part of close-knit, insular cliques with others who shared similar extremist views as “1” for radical peers and “0” otherwise. We coded individuals who had immediate or extended family members who participated in illegal non-violent or violent ideologically-motivated behavior as “1” for radical family and “0” otherwise.

We coded mental illness as “1” if there is evidence that an individual suffered from mental illness of any kind, including schizophrenia, bipolar disorder, post-traumatic stress disorder, or major depression and “0” otherwise. We coded mental illness as positive based on either clinical diagnosis or self-reports and testimony by family or friends.

To control for the possibility that individuals are more likely to engage in violence when they are members of competing groups, we coded rival groups as “1” for individuals who were members of an extremist group that suffered from internal splintering or competed with like-minded organizations for status, prestige, or resources and “0” otherwise. Evidence of internal competition included fractionalization within the group, acts or threats of violence between group members, and leadership turnover due to disagreements about group behavior or goals. We also coded this variable positively if there was evidence of violence between rival groups.

To control for violence-justifying beliefs that may be present across the political spectrum we included several ideology measures. These measures are binary variables that categorize individuals along far right, far left, radical Islamist, or single-issue ideological milieus (the categories are mutually exclusive). Gender is coded as a dichotomy (“1” = men; “0” = women) and age is a continuous measure recorded at the time at which the individual’s extremist activities first became public knowledge (e.g., they were arrested, their plot materialized).
**Missing Data**

Several methods exist for mitigating the problem of missing data in large datasets, including simply excluding cases that have missing values from the analysis (i.e., list-wise deletion), replacing missing data with a universal baseline value (i.e., fixed-value imputation, or cold-deck imputation), or performing complex statistical models for estimating missing values based off key extant data (see Safer-Lichtenstein et al. 2017).

Based on our previous work (Jensen et al. 2016, 2018; LaFree et al. 2018), we relied on a regression-based multiple imputation technique to predict missing values. Regression-based multiple imputation operates on the assumption that data are missing conditionally at random (Rubin 2004). Thus, while the missing information for a given variable may not be randomly dispersed among all observations in a study, it is reasonable to assume a certain degree of randomness to missing values when accounting for other potentially confounding variables. We determined that this is a safe supposition given the wealth of information contained in the PIRUS dataset. Based off precedent in other terrorism research (Gruenewald and Pridemore 2012) and established practices in dealing with missing data in social science research (Rubin 2004), we produced 50 imputed datasets using regression techniques and report the pooled values below.

**Multivariate Results**

Table 3 shows the results of the multivariate logistical analysis. A number of variables are significantly associated with violent or potentially violent extremist outcomes (as opposed to non-violent extremism). Perhaps most importantly, the results indicate that pre-radicalization criminal activity, violent or non-violent, is the single strongest predictor of post-radicalization violent extremism when controlling for ideology.8 In fact, individuals who engaged in non-violent or violent crime prior to radicalizing were 1.85 times more likely to engage in acts of violent extremism after radicalizing than were extremists without criminal histories. The effect of pre-radicalization criminal behavior on post-radicalization violence are the strongest for extremists whose criminal histories include acts of violent crime (e.g., homicide.

---

8Given that the goal of this study is to isolate the effect of pre-radicalization crime on the propensity for post-radicalization violence, ideology is treated here as a control variable. However, it is worth noting that ideological affiliation is the single strongest predictor of violent outcomes in PIRUS. Individuals associated with far-right and Islamist groups are substantially more likely to participate in acts of violent extremism than are individuals on the extremist far-left. This result is not surprising. Groups on the extremist far-right and those affiliated with Salafi jihadism actively encourage their followers to conduct acts of violence on behalf of their respective movements, while many far-left extremist groups promote the use of non-violent political resistance to achieve their goals.
assault, forcible rape). Individuals with violent criminal histories were 2.44 times more likely to engage in acts of violent extremism once they had radicalized.

We note in passing a number of control variables that were also significantly linked to greater propensities for violence among the subjects in PIRUS. 9 In addition to criminal history, individuals with a documented or suspected mental illness, those who were members of extremist cliques, and men were all significantly more likely to engage in acts of violent extremism. Conversely, individuals with stable employment histories were nearly 35% less likely to engage in acts of violent extremism.

Table 3 Multivariate logistic regression: criminal history (all) and participation in extremist violence

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Odds ratio</th>
<th>95% C.I. for odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior criminal activity</td>
<td>.618***</td>
<td>.187</td>
<td>1.855</td>
<td>1.284 - 2.681</td>
</tr>
<tr>
<td>Stable employment history</td>
<td>-.450*</td>
<td>.197</td>
<td>.637</td>
<td>0.424 - 0.958</td>
</tr>
<tr>
<td>Education</td>
<td>-.006</td>
<td>.106</td>
<td>.994</td>
<td>0.796 - 1.241</td>
</tr>
<tr>
<td>Married</td>
<td>-.302*</td>
<td>.139</td>
<td>.740</td>
<td>0.562 - 0.974</td>
</tr>
<tr>
<td>Past military experience</td>
<td>.280</td>
<td>.206</td>
<td>1.324</td>
<td>0.883 - 1.983</td>
</tr>
<tr>
<td>Active in military</td>
<td>.212</td>
<td>.307</td>
<td>1.236</td>
<td>0.677 - 2.255</td>
</tr>
<tr>
<td>Radical peers membership</td>
<td>.599***</td>
<td>.150</td>
<td>1.821</td>
<td>1.349 - 2.458</td>
</tr>
<tr>
<td>Radical family</td>
<td>-.505*</td>
<td>.205</td>
<td>.604</td>
<td>0.401 - 0.909</td>
</tr>
<tr>
<td>Mental illness</td>
<td>.521**</td>
<td>.203</td>
<td>1.684</td>
<td>1.131 - 2.507</td>
</tr>
<tr>
<td>Rival groups</td>
<td>-.024</td>
<td>.165</td>
<td>.976</td>
<td>0.699 - 1.363</td>
</tr>
<tr>
<td>Gender</td>
<td>.400</td>
<td>.198</td>
<td>1.492</td>
<td>1.012 - 2.200</td>
</tr>
<tr>
<td>Age</td>
<td>-.060*</td>
<td>.024</td>
<td>.942</td>
<td>0.899 - 0.986</td>
</tr>
<tr>
<td>Age (squared)</td>
<td>.001*</td>
<td>.000</td>
<td>1.001</td>
<td>1.000 - 1.001</td>
</tr>
<tr>
<td>Islamist ideology</td>
<td>1.064***</td>
<td>.202</td>
<td>2.897</td>
<td>1.950 - 4.302</td>
</tr>
<tr>
<td>Far right ideology</td>
<td>.533**</td>
<td>.169</td>
<td>1.704</td>
<td>1.224 - 2.372</td>
</tr>
<tr>
<td>Far left ideology</td>
<td>-1.023***</td>
<td>.198</td>
<td>.359</td>
<td>0.244 - 0.529</td>
</tr>
<tr>
<td>Exposure 1950s</td>
<td>.283</td>
<td>.576</td>
<td>1.327</td>
<td>0.429 - 4.104</td>
</tr>
<tr>
<td>Exposure 1960s</td>
<td>.171</td>
<td>.263</td>
<td>1.186</td>
<td>0.709 - 1.985</td>
</tr>
<tr>
<td>Exposure 1970s</td>
<td>.554*</td>
<td>.224</td>
<td>1.741</td>
<td>1.122 - 2.702</td>
</tr>
<tr>
<td>Exposure 1980s</td>
<td>.353</td>
<td>.202</td>
<td>1.423</td>
<td>0.957 - 2.115</td>
</tr>
<tr>
<td>Exposure 1990s</td>
<td>-.300</td>
<td>.182</td>
<td>.741</td>
<td>0.519 - 1.058</td>
</tr>
<tr>
<td>Exposure 2000s</td>
<td>-.681***</td>
<td>.154</td>
<td>.506</td>
<td>0.375 - 0.684</td>
</tr>
</tbody>
</table>

DV = earliest public exposure in extremist activity involved intentional violence against a person or persons (1), or earliest public exposure in extremist activity did not involve intentional violence against a person or persons (0)

N = 1867

*p ≤ .05; **p ≤ .01; ***p ≤ .001 (two-tailed)

9While not the focus of our analysis, it is worth noting that the presence of radical family members appears to have a negative effect on the propensity of individuals to engage in violent extremism. This counterintuitive finding appears to be driven by the large percentage (60%) of individuals on the far-left who had radical family members and significant others at the time of their involvement in extremist activities.
extremism than individuals who were long-term unemployed. Extremists who were older and married were also less likely to engage in acts of violent extremism. In general, these results track very closely with our earlier work on the PIRUS data (Jensen et al. 2018; LaFree et al. 2018).

We next considered whether juvenile offending is also predictive of post-radicalization violence. The results are shown in Table 4. In general, the results indicate that juvenile offending is one of the strongest non-ideological predictors of post-radicalization violence when controlling for other important correlates of extremism. According to Table 4, when we reproduce the earlier multivariate analysis using juvenile crime as the measure of previous criminality, we find a significant increase in the probability that an individual will engage in acts of violent extremism after radicalizing. Indeed, when juvenile offending is used as the measure of previ-

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Odds ratio</th>
<th>95% C.I. for odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juvenile crime</td>
<td>.889*</td>
<td>.356</td>
<td>2.433</td>
<td>1.205 - 4.911</td>
</tr>
<tr>
<td>Stable employment history</td>
<td>-.664*</td>
<td>.171</td>
<td>.515</td>
<td>0.353 - 0.749</td>
</tr>
<tr>
<td>Education</td>
<td>-.102</td>
<td>.089</td>
<td>.903</td>
<td>0.757 - 1.076</td>
</tr>
<tr>
<td>Married</td>
<td>-.389*</td>
<td>.171</td>
<td>.678</td>
<td>0.483 - 0.949</td>
</tr>
<tr>
<td>Past military experience</td>
<td>.292</td>
<td>.208</td>
<td>1.339</td>
<td>0.891 - 2.010</td>
</tr>
<tr>
<td>Active in military</td>
<td>.317</td>
<td>.310</td>
<td>1.373</td>
<td>0.747 - 2.522</td>
</tr>
<tr>
<td>Radical peers membership</td>
<td>.471***</td>
<td>.146</td>
<td>1.602</td>
<td>1.203 - 2.134</td>
</tr>
<tr>
<td>Radical family</td>
<td>-.444*</td>
<td>.192</td>
<td>.642</td>
<td>0.438 - 0.938</td>
</tr>
<tr>
<td>Mental illness</td>
<td>.595**</td>
<td>.202</td>
<td>1.814</td>
<td>1.219 - 2.696</td>
</tr>
<tr>
<td>Rival groups</td>
<td>-.038</td>
<td>.183</td>
<td>.963</td>
<td>0.670 - 1.383</td>
</tr>
<tr>
<td>Gender</td>
<td>.410*</td>
<td>.195</td>
<td>1.506</td>
<td>1.028 - 2.206</td>
</tr>
<tr>
<td>Age (squared)</td>
<td>.001*</td>
<td>.000</td>
<td>1.001</td>
<td>1.000 - 1.001</td>
</tr>
<tr>
<td>Islamist ideology</td>
<td>1.076***</td>
<td>.204</td>
<td>2.933</td>
<td>1.965 - 4.377</td>
</tr>
<tr>
<td>Far right ideology</td>
<td>.526**</td>
<td>.174</td>
<td>1.692</td>
<td>1.202 - 2.381</td>
</tr>
<tr>
<td>Far left ideology</td>
<td>-.959***</td>
<td>.207</td>
<td>.383</td>
<td>0.255 - 0.575</td>
</tr>
<tr>
<td>Exposure 1950s</td>
<td>.304</td>
<td>.578</td>
<td>1.355</td>
<td>0.436 - 4.207</td>
</tr>
<tr>
<td>Exposure 1960s</td>
<td>.037</td>
<td>.262</td>
<td>1.038</td>
<td>0.621 - 1.734</td>
</tr>
<tr>
<td>Exposure 1970s</td>
<td>.384</td>
<td>.222</td>
<td>1.469</td>
<td>0.951 - 2.267</td>
</tr>
<tr>
<td>Exposure 1980s</td>
<td>.265</td>
<td>.204</td>
<td>1.303</td>
<td>0.874 - 1.942</td>
</tr>
<tr>
<td>Exposure 1990s</td>
<td>-.444*</td>
<td>.183</td>
<td>.642</td>
<td>0.448 - 0.918</td>
</tr>
<tr>
<td>Exposure 2000s</td>
<td>-.764***</td>
<td>.154</td>
<td>.466</td>
<td>0.344 - 0.629</td>
</tr>
</tbody>
</table>

DV = earliest public exposure in extremist activity involved intentional violence against a person or persons (1), or earliest public exposure in extremist activity did not involve intentional violence against a person or persons (0)
N = 397
*p ≤ .05; **p ≤ .01; ***p ≤ .001 (two-tailed)
ous criminality in the multivariate model, the probability that an individual with a
criminal history prior to radicalizing will go on to engage in acts of violent extrem-
ism increases from 1.85 times more likely to 2.43 times more likely. As Table 4
shows, while several variables remain significantly related to a higher probability of
violent extremism, juvenile offending is the strongest non-ideological predictor of
post-radicalization violence among individuals in PIRUS. Importantly, the measure
of juvenile crime used in the model includes acts of violent and non-violent crime,
indicating that the link between early crime and violent extremism is not simply
limited to a continuation of violent deviant behavior in the individuals’ adult years.

Limitations

Before moving on to a discussion of the policy implications of these results, we
acknowledge several limitations in the present study. First, the variables included in
our study have varying rates of missing data, including some variables (e.g., employ-
ment history) that are missing values for more than 60% of the cases in
PIRUS. Missing data are a common feature of open source studies of political
extremism (Dugan and Distler 2016; Freilich et al. 2014; Safer-Lichtenstein et al.
2017). Important information may simply be unavailable in court documents and
open source media. In addition, it is likely that the cases with the least missing data
are those most prominently covered by news agencies. In the study of political
extremism, like the study of crime more generally, we face methodological trade-
offs. While the limits of open source data in this area are clear, more traditional
methods like surveys and case studies also have corresponding weaknesses.
Nevertheless, considering the non-trivial amount of missing data in PIRUS, we cau-
tion that our results are best viewed as preliminary.

Second, while we argued above that contrasting violent and non-violent political
extremists has advantages, we are not able to distinguish those who radicalize to
commit illegal acts of political extremism from the general population. While such
a study would undoubtedly make significant contributions to political violence
research, it is simply not possible given current data limitations.

Third, while many theories of radicalization to violence (Borum 2011; Horgan
2008; McCauley and Moskalenko 2011; Neumann 2013) conceptualize it as the
culmination of multiple, dynamic pathways, our data do not allow us to measure
with precision the temporal ordering of the variables we include. Furthermore, the
data that we rely on do not allow us to address important debates in criminology
about the mechanisms that link individual causal factors to specific outcomes. While
not the focus of this study, we caution that our results do not reveal if individual
correlates are linked to violent extremism through selection effects, conjunctural
dynamics, or another type of causal process.

And finally, given that our sample is limited to U.S.-based extremists, we cannot
genralize our results to other countries or regions. While the theoretical perspectives
that we draw from are designed to be broad in explanatory scope, it could be that
variations in cultural, legal, and social norms will influence how well individual criminological correlates explain violent extremism outside of the United States. Future research should explore how well dominant criminological theories explain violent extremism in other geographical contexts, especially those outside the West, in order to better understand the benefits and limitations of applying criminological theory to the study of extremism.

Discussion

Policy makers seeking to reduce the threat of violent extremism would benefit from building on effective criminological policies used to make informed law enforcement decisions and to shape prevention and rehabilitation programs. To this end, our results suggest several specific options. First, the results underscore the importance of leveraging knowledge about an individual’s criminal record in prioritizing counterterrorism investigations. Specifically, the violent extremists in our sample were more likely than the non-violent extremists to have a history of criminal behavior, including both violent and non-violent offenses. It is important to note that while our results cannot definitively dismiss the possibility that extremists specialize in violent crimes throughout their criminal careers, preliminary evidence suggests that extremists often progress from minor to more serious offending. If this finding is confirmed in subsequent research, it provides useful information for identifying individuals who are at risk of engaging in violent political extremism.

Second, our results are in line with a long criminological research tradition that underscores the stigmatizing effects of prior criminal activity. Prior research shows the cumulative disadvantage of a criminal history, including effects on perceived worth (Evans et al. 2018; Gendreau et al. 1979; Luoma et al. 2007), ability to vote (Burch 2011; Manza and Uggen 2008; Uggen and Manza 2002), others’ perceptions (Braithwaite 1989; Matsueda 1992), job and housing prospects (Agan and Starr 2016; D’Alessio et al. 2015; Stoll and Bushway 2008), and subsequent physical and mental health impediments (Freudenberg 2002; Schnittker and John 2007). Further, there is evidence that stigmatization may be especially pertinent for terrorist perpetrators who are attempting to regain standing following their disengagement from extremist activities (Jasko et al. 2016; Kruglanski et al. 2014). The results generally support the utility of policies aimed at reducing the stigmatization of criminal histories and promoting reintegration into society. Moreover, this suggests that an added benefit of effective rehabilitation programs for non-extremist offenders may be their role in preventing future violent extremism.

Third, our study identified differences in the prevalence of prior criminal activity when comparing individuals who ascribe to different extremist ideologies. Specifically, individuals ascribing to a far-right ideology were more likely to have a history of criminal activity, including violent crime. By contrast, far-left extremists were far less likely to have a pre-radicalization criminal history. These findings suggest that ideology should be explicitly considered in studying the varied path-
ways to radical extremism: there appear to be different risk factors for violent extremism depending on an individual’s ideological milieu. Thus, our results suggest that criminal history is more salient for the far-right when compared to the far-left or Islamist cases, a finding supported by related research on characteristics of extremist perpetrators (Chermak and Gruenewald 2015; Gill et al. 2014).

Finally, our results show that violent extremists with a criminal history were significantly more likely to have started their non-ideological offending at a younger age than non-violent extremists. In other words, age of onset matters for entry into violent extremism, as it does for important criminological outcomes, such as length and severity of criminal careers. While we cannot identify specific causal mechanisms, our results show that early entry into crime is a risk factor for violent extremism. Intelligence practitioners would clearly do well to liaise with local law enforcement and utilize existing criminal record databases to make informed risk assessments. Perhaps more importantly, programs aimed at preventing violent extremism in the United States stand to gain by partnering with existing criminal justice programs that are in place to steer at-risk youth away from engaging in juvenile crime.

Conclusion

In general, criminologists have played a small but growing role in explaining the etiology of violent political extremism. Our results suggest that criminological perspectives have a lot to offer to the study of political extremism and that they may potentially provide answers to questions that have long puzzled terrorism scholars. Indeed, political violence research has struggled to identify the risk factors that explain why some individuals are willing to commit acts of violence on behalf of their extremist belief system while others are not. The present study shows that criminal record, which plays an especially important role in life course (Sampson and Laub 1997), subcultural (Singer 1986) and labeling/conflict perspectives (Pager 2003), may be one important risk indicator that separates violent and non-violent extremists. While the link between pre-radicalization criminality and post-radicalization violence appears to be robust, research gaps remain. We conclude with a short discussion of the opportunities for future research.

First, while contrasting violent and non-violent political extremists among a sample of ideologically committed individuals provides a useful comparison, future studies should attempt to distinguish those who radicalize to commit illegal acts of political extremism from the general population. Such a study would allow analysts to make inferences about the specific mechanisms that link criminal history to radicalization for some individuals but not others. Second, while many theories of radicalization (Borum 2011; Horgan 2008; McCauley and Moskalenko 2011; Neumann 2013) conceptualize it as the culmination of multiple, dynamic pathways, the empirical study of extremism more often treats the phenomenon as linear and simple (for an exception, see Jensen, Atwell Seate, and James 2018). While we can estab-
lish that criminal activity often comes before radicalization, future studies would be well served to examine the complex longitudinal nuances that are often present in the radicalization pathways of extremists. This would include not only an assessment of the temporal proximity of previous crime to radicalization, but also how previous criminal activity interacts with other criminological correlates to produce unique pathways to extremist outcomes. Alternative types of data, such as panel or time series, would be ideal to measure these types of temporal processes. And finally, given that our sample is limited to U.S.-based extremists, future terrorism studies could further estimate the robustness of the relationship between criminal history and violent extremism by examining it in other countries or regions of the world.

References


Testing a Threat Model of Terrorism: A Multi-method Study About Socio-Economic and Psychological Influences on Terrorism Involvement in the Netherlands

Vanja Ljujic, Inge Versteegt, Frank Weerman, Fabienne Thijs, Jan-Willem van Prooijen, Fatima el Bouk, and Steve van de Weijer

Introduction

In this chapter, we present the results from a multi-method study in the Netherlands into the role of socio-economic and psychological factors underlying terrorism involvement. Building on theories and findings of previous researchers in the field, we present a descriptive model of terrorism that categorizes distal and proximal ‘threat triggers’. In the quantitative part of the study, we analysed a combined data set on suspects of terrorist offenses, a control sample of the general population and a sample of general offenders. Terrorism suspects were more often lower educated, unemployed, and previously involved in crime compared to persons from the general

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population with the same gender and age. Relatively often, they had lost their job or became imprisoned for another crime a year before they were charged with a terrorist offense. In the qualitative part of the study, we conducted interviews with four detainees from terrorist units, eight detainees charged with traditional crimes (as reference group), and 18 professional informants that had personal experience with current and former detainees on terrorism and other offenses. The results of these interviews suggest that among terrorist offenders, early family experiences, attachment problems, and mental health issues increase feelings of perceived threat, which further justify violent narratives of belonging and significance.

In this chapter, we present the results from a multi-method study (part of the PROTON collaborative project) that was aimed to investigate the role of socio-economic and psychological factors and processes leading to involvement in terrorism. With this contribution, we attempt to serve three main goals. First, we formulate a ‘threat model of terrorism’ that incorporates major socio-economic, cultural and psychological determinants of terrorism that have been proposed in the literature. Second, we aim to present and summarize the most important findings of our two studies and provide quantitative as well as qualitative new insights on terrorism offenders in the Netherlands. Third, we aim to use the quantitative and qualitative findings to evaluate the basic features of our threat model of terrorism, and to comparing terrorist suspects with the general population as well as suspects of regular offenses.

Previous research in the Netherlands already highlighted the potential role of individual and group level adversities and strains, relative deprivation, personal characteristics and network dynamics (see for overviews e.g., Weggemans et al. 2014; Feddes et al. 2015; de Bie 2016). However, most of the existing research in the Netherlands has been based on open sources, government data and/or qualitative material retrieved from small and specific samples of respondents. There are still important gaps in contemporary knowledge and insights on who are involved in terrorist offenses in the Netherlands and what has led them to become involved or recruited. Only recently, studies began to employ quantitative data of larger samples (Weenink 2015; de Bie 2016; Bergema and van San 2019). In these studies, the majority of jihadists was found to be from the lower social strata, often failed to acquire adequate vocational education, and was unemployed or working in unskilled jobs (de Bie et al. 2015; Bergema and van San 2019). Previous studies also show, however, that there is not one common characteristic for all radicalized individuals. Researchers agree that the answer to why and how people become involved in terrorism should be sought in complex pathways towards terrorist engagement (see also Borum 2011). Both attitudinal and behavioral aspects of terrorism are important, and influenced by a variety of proximal and distal factors, shaped by different interpersonal and socio-cultural socializing agents, including family, peers, and religious leaders (Sageman 2004; Decker and Pyrooz 2011; Victoroff and Kruglanski 2009).

In our contribution, we focus not only on the characteristics of those who become involved in a terrorist ideology or network in comparison to the general population, but also investigate differences and similarities to those who commit regular crimes.
In this way, we might better tease out what processes are specific for becoming involved in terrorism, as opposed to the processes underlying more general involvement in developing criminal behavior.

Theoretically we will argue that the transition from radical thoughts to radical actions occurs in conjunction with a psychological need to (restore) clarity and positive self-image (significance) in face of perceived threat to one’s material and immaterial wellbeing (building on Kruglanski et al. 2014). Building on past research and literature, we will propose a descriptive threat model of terrorism that categorizes distal and proximal ‘threat triggers’ of terrorism – experiences of (perceived) threat that sets in motion cognitive and emotional responses, and as a result of that, increases involvement in extremism and radical action. This model combines psychological and criminological notions of perceived threat (Stephan and Stephan 2013; Schmid and Muldoon 2015); strain (Agnew 2014) and significance loss (Kruglanski et al. 2014) to make an inventory of the factors associated to violence-permissive attitudes and violent action. The model also stresses the importance of proximal triggers and personal experiences in terrorist engagement.

We will report the results of two complementary studies, one with a quantitative approach and one with a qualitative approach. In the quantitative study, we combined and analyzed various existing data sets that were available for the complete Dutch population of terrorism suspects since the introduction of the Crimes of Terrorism Act in 2004. In the qualitative study (Study 2), we complemented the quantitative analyses with an in-depth account of the motives, experiences and life histories of persons involved in terrorist activities in the Netherlands. To achieve this, we conducted interviews in prisons with suspects and convicts of terrorist offenses. We conducted interviews with four detainees from terrorist units, as well as eight detainees charged with traditional crimes (to provide a reference group), and complemented this with interviews with 18 informants that had personal experience with current and former detainees that were incarcerated on the basis of the Terrorist Crime Act.\footnote{Both quantitative and qualitative studies have been approved by the ethical board of the Faculty of Law from the VU university in Amsterdam.}

In a concluding section, we will summarize these findings and compare them to our theoretical model to evaluate its validity.

The Socio-Political Context of the Study

According to Statistics Netherlands (2016), the Dutch ethnic majority covers 79.3% of the total population. Most non-Western immigrants come from Turkey (2.4%), Morocco (2.2%) and Suriname (2.1%). In terms of religious affiliation, 4.9% of Dutch population is Muslim.\footnote{See: www.cbs.nl/nl-nl/publicatie/2016/51/de-religieuze-kaart-vannederland-2010-2015.} For decades, constitutional freedom to religion and
multicultural policy has facilitated integration of immigrants into the Dutch society. However, the pace of integration of immigrants in the socio-economic sphere has lagged behind the juridical sphere (Shadid 1991). In particular, there is a considerable amount of housing and school segregation (that is, concentration of minorities in certain neighborhoods and schools). Combined with increased political polarization, this facilitated a social distance between the host and Muslim population (Veldhuis and Bakker 2009). Ethnic associations, growing presence of radical imams from abroad, and experiences of discrimination and exclusion are further obstacles for intergroup contact. Until 9/11 however Muslim extremism did not pose an immanent threat to Dutch society.

After the assassination of Theo van Gogh in 2004, jihadi extremism was waning for 7 years, to be revoked again in 2011 with the start of the Arab Spring (de Bie 2016). Political turbulences in the Middle East and, especially, the emergence of Islamic State rekindled the emergence of jihadists’ networks in the Netherlands. Since 2012, the risk of terrorism has been labelled as “substantial” by the Dutch Security Service (Bergema and van San 2019). In recent years, around 250 people from the Netherlands have travelled to Syria and Iraq to join Islamic State (ibid.). These foreign fighters are regarded as a major security concern in the Netherlands (Bakker and de Bont 2016; Wittendorp et al. 2017). After the military defeat of Islamic State, some of the combat-trained jihadi travellers returned to the Netherlands, increasing the perceived risk of terrorist attacks in the country.

In order to counter the security threats, the Netherlands amended several legislative measures to supplement the Crimes of Terrorism Act. In our study, we adopt the Dutch legal definition of terrorism, which explicitly refers to criminal offences “committed with a terrorist intent”. According to Article 83a, terrorism entails a wide range of activities aimed at serious intimidation of the population (or part of it); the attempts to force the government or any organization to act or refrain from acting, and the disruption of the political, economic or social structure of a country. Several laws, such as The Code of Criminal Procedure and the Penal Code have been amended to investigate and prosecute crimes with terrorist intent. A list of these crimes has been widened to include various offences, such as recruitment for jihad; membership in a terrorist organization; the preparation of (and conspiring to) commit terrorist offence; spreading terrorist propaganda, and providing material and logistic support to terrorist groups. In an attempt to minimize prison radicalization and recruitment, the Dutch Ministry of Justice established special prison units for terrorism detainees.

The salience of terrorist threat (e.g. in media and political statements) adds its share to intergroup anxiety and tensions along ethnic and religious lines (Andersen and Mayerl 2018; Choma et al. 2015). PEW Research Centre (2016) found that 58% of surveyed Dutch believe that Muslims support extremist groups like ISIS and 35%

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3 In the aftermath of the Theo van Gogh murder, two prominent jihadi networks, known as the Hofstad group and the Context group, have been dismantled by the security services.
reported overly negative attitudes towards Muslims.\footnote{http://www.pewglobal.org/2016/07/11/methodology-27/} A survey from 2017\footnote{http://www.pewglobal.org/2017/08/01/globally-people-point-to-isis-and-climate-change-as-leading-security-threats/} shows that 67% of Dutch population views ISIS as a major threat to the society. According to study by Statistics Netherlands (2017), 70% of Dutch citizens are worried about a terrorist attack, and 40% believe there is a “good chance” it may happen in the country.\footnote{https://www.counterextremism.com/countries/netherlands} In addition to perceived threats to physical safety, recent polls indicate a perceived threat to national culture and the existence of xenophobic feelings. It was reported that 83% of the Dutch are concerned about Dutch norms and values, and 81% is concerned about immigration. Fifty percent of the respondents see non-Western migrants as a threat to their way of life, and almost one third of the Dutch population reported to feel threatened by the large influx of refugees.\footnote{https://www.ipsos.com/en/global-trends-survey-2017}

Right-wing extremists exploit the threat of terrorism and negative stereotypes against Muslims to pursue a discriminatory and – in some cases – violent Islamophobia agenda. Since 2004, two thirds of Dutch mosques have received threats or were vandalized by hate graffiti, smashed windows, dead pigs on their doorsteps, or even arson. These incidents indicate that Muslims as a religious group have been held accountable for terrorist attacks performed by militant extremists (Vellenga 2018). Right-wing extremists suggest through social media and militant public marches that it is time to defend “our way of life” violently against the rise of Islam. At the same time, an increasing number of non-Western (Muslim) minorities feel more insecure and less at home in the Netherlands (cf. Visser-Vogel et al. 2018). According to the Social and Cultural Planning Bureau, more than 50% Moroccan-Dutch and 40% Turkish-Dutch have accounted discrimination in different areas of life, particularly in the job market (Andriessen et al. 2014).

Additionally, there are also left-wing extremist networks active in the Netherlands.\footnote{See Van Ham et al. (2018), https://www.wodc.nl/binaries/2867_Summary_tcm28-323558.pdf} They sometimes confront right-wing extremists in public and violent anti-demonstrations. Left-wing extremist groups are less organized, and less known for attacks on citizens but may also pose a threat to society, as manifested in the murder of right-wing politician Pim Fortuyn by a left-wing extremist in 2002. However, left-wing extremists have not been terrorism suspects since the Crimes of Terrorism Act in 2004. Therefore, they are not part of our research population.

While only a small portion of Dutch Muslim gets involved in activities with terrorist intent, many (deprived) individuals from the general population may be susceptible to radical beliefs (Balen and van den Bos 2017; Verkuyten 2018). According to the Dutch security agency, there are a few thousand sympathizers of jihadi ideology in the country, which is attributed to ongoing polarization among majority Dutch citizens and their Muslim counterparts (AIVD 2016).\footnote{https://www.aivd.nl/binaries/aivd_nl/documenten/jaarverslagen/2016/04/21/jaarverslag-aivd-2015/jaarverslag-aivd-2015-definitieve-webversie.pdf}
Previous Insights on Socio-Economic Influences and Psychological Processes Related to Terrorism Involvement

Literature on terrorism proposes a variety of historical, political, religious, economic, socio-economic and psychological drivers of terrorism (see e.g., Schmid 2004, 2011). Most studies postulate that terrorist involvement occurs in conjunction with social disadvantage and certain psychological responses to deal with collective and individual strains (cf. Agnew 2016; Kruglanski et al. 2014; Doosje et al. 2013).

Research in the Netherlands shows that marginalization and socio-economic deprivation are relatively prevalent among Dutch jihadi extremists and foreign fighters. Some disadvantaged neighborhoods have become a breeding ground for suburban terrorists (cf. Ljujic et al. 2017). Several authors (e.g. de Bie 2016; de Poot et al. 2011) argue that the interplay of unfavorable life circumstances and socio-cultural factors determines both recruitment into, and bonding within, extremist groups. The majority of Jihadi travellers (65.5%) in the Dutch sample were friends with fellow fighters, often from the same neighborhood, before travelling to Syria (Bergema and van San 2019). Unemployment rates are relatively high among jihadi fighters; moreover, many of them are from poor backgrounds, have relatively low levels of education, and have dropped out of secondary or tertiary school (Feddes et al. 2015; de Bie 2016; Bergema and van San 2019; Weenink 2015).

Psychological research suggests that disruptive life events may trigger extremist behavior (violence) due to “significance loss,” promoting a perception of life as meaningless (Kruglanski et al. 2014). In other words, the ultimate motivation for individual involvement in terrorism lays in a personal motivation of “significance quest” (the search for esteem, achievement, meaning, competence, and control) against the background of disturbing and threatening life events (cf. Kruglanski et al. 2017). Empirical terrorism studies distinguished several ‘significance loss’ triggers for radicalization, such as the death of a loved one, failure at work or in education, and contacts with the justice system (Feddes, Nickolson and Doosje 2015). These disruptive events may have provided a ‘cognitive opening’ for alternative life goals in the form of radical beliefs and extremist violence.

The social milieu from which terrorists are recruited is constantly changing in line with different needs and goals of terrorist groups (Gallagher 2014). Basra and Neumann (2016) have shown that ISIS-related radicals are typically recruited among suburban criminal networks. Likewise, several Dutch terrorism suspects and foreign fighters have been involved in various violent and property crimes prior to radicalization (de Bie 2016; Ljujic et al. 2017; Basra and Neumann 2016). This confirms the so-called crime-terror nexus described in previous literature (Hutchinson and O’malley 2007; Makarenko 2012, see also Ljujic et al. 2017). Several processes are suggested to explain this nexus (Basra and Neumann 2016). Terrorist networks may turn to criminal organizations for instrumental reasons. But offenders can also be actively recruited to become terrorists, as a way to be redeemed by God from previous criminal acts and sins (Basra and Neumann 2016). It is also possible that both criminal and terrorist involvement are ways to
cope with the adversities of socio-economic deprivation and adversity; as a ‘suburban response to strains’ (McCauley and Moskalenko 2008).

Next to socio-economic and personal deprivation and strains, perceived threats to one’s culture, status and physical wellbeing is mentioned as one of the most important influences on radicalization and terrorism (cf. Huddy et al. 2007; Koomen and van der Pligt 2009). Perceived threat does not always reflect real harm, but rather the anticipation thereof (Stephan and Stephan 2005). For example, people who have a lower socio-economic status or belong to a devalued minority group typically associate higher status with hostility, repression and domination (Glick 2002), whereas people who occupy a higher status may associate lower and devalued status with (undesirable distribution of) social benefits, immoral behavior and criminality (Fiske et al. 2002). Relationships between perceived threat and group violence are also well documented (e.g. Ranstorp 1996; Kakar 1996), including terrorism (cf. Koomen and van der Pligt 2009). Even a symbolic (nonmaterial) threat may determine how people think, feel and behave towards others (Feldman and Stenner 1997; Brewer 1999; Riek et al. 2006, for meta-analyses). In the past decade, ridiculing religious symbols and cultural values (Dutch film Fitna; Mohammed cartoons; Charlie Hebdo) have led to public outrage, death threats, even terrorist attack against satirical journalists.

Several theories provide explanations for the decisive role of perceived threat in modern society. According to evolutionary psychologists, being perceptive of threat is part of a human survival mechanism (cf. Buss 2015). Fears and phobias towards ‘others’ resemble instinctive reactions to threats to survival in an ancestral environment (e.g., snakes, predators, diseases) (Bracha 2004; Neuberg and Cottrell 2006; Schmitt and Pilcher 2004). This evolutionary ‘threat management system’ enables people to quickly recognize threatening stimuli in their environment, including pathogens (i.e., the disease avoidance system) and threats to one’s physical integrity (Neuberg et al. 2011). Such physical threats include hostile coalitions or outgroups. Indeed, Bowles (2009) illuminated that intergroup conflict and warfare significantly shaped the process of natural selection among ancestral humans. This facilitated not only within-group cooperation but also psychological adaptations to compete for scarce resources (e.g. water, food, housing) and maintain group characteristics that promote bonding and group cohesion (e.g. rituals, language, culture).

Social psychologists argue that group categorization evokes the salience of group labels through discursive reinforcement of old-established fears and dislikes (Cuddy et al. 2011). Such stereotypical evaluations of ‘outsiders’ reflect different types of (perceived) threats and correspond to different levels of hostility towards different (religious, ethnic, national) groups. Historically, perceived threat has captured stereotypical dangers from ‘others’ that were predominantly defined in the line with perceived biological or physical differences (e.g. racism). According to the classical theory of intergroup conflict (Tajfel and Turner 1979), people exaggerate similarities within groups (in-group cohesion) and differences between groups (Li and Brewer 2004). Unsurprisingly, such polarization coincides with the emergence or invigoration of fear and aggression towards ‘threatening’ outgroups (Brewer and Campbell 1976).
A Threat Model of Terrorism

All in all, we propose that perceived group threat, associated with relative deprivation, socio-economic hardship and personal uncertainty, increase susceptibility to extremist viewpoints and ultimately, involvement in terrorist activities (Doosje et al. 2016; Kruglanski et al. 2014; Feddes et al. 2015; Agnew 2016; Brewer 1999).

Our model (presented in Fig. 1) postulates that perceived threat originates from different distal and proximal sources. Sometimes, the source of threat involves factors which are far beyond the personal zone of influence. For example, people perceive distal global affairs (perceived Western dominance in geopolitical distribution of power and wealth), and international events (military interventions against Iraq, Syrian war, Gaza conflicts, etc.) as unjust, threatening and harmful. These distal threats may lead to feelings of solidarity, empathy, but also anger, frustration and grievances along lines of affiliation, such as ethnic and religious backgrounds.

We also propose discrimination and segregation as a source of threat. Consistent to Sageman’s (2008) emergent model of terrorist involvement, we argue that resentments associated to devalued group status resonate with extremism as a device to regain positive group identity. It involves uncritical acceptance of in-group’s rules and values; and a willingness to defend the group ‘in threatening situations’ (Moghaddam 2005). Perceived threat also contributes to a process of dehumanization of outgroup members, and the rejection of mainstream norms and laws (van Prooijen et al. 2015; Zick et al. 2008).

We expect that perceived threat associated to one’s personal zone (disruptive and traumatic experiences and individual strains and adversities) plays a crucial role in the step towards terrorist engagement. As previously mentioned, a person does not need to encounter an imminent threat to life to feel genuinely threatened. A threat to one’s status may have the same profound effects, because it threatens a deep-rooted desire to matter, to be significant. According to Kruglanski et al. (2014, 2017), such

<table>
<thead>
<tr>
<th>Threat triggers</th>
<th>Cognitive and emotional response</th>
<th>Behavioral response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distal international factors</td>
<td>Military interventions, ethnic conflicts abroad</td>
<td>Grievances, conformational bias</td>
</tr>
<tr>
<td>Distal national factors</td>
<td>Discrimination, relative deprivation, segregation</td>
<td>Resentment, ‘in-group love and outgroup hate’</td>
</tr>
<tr>
<td>Proximal personal factors</td>
<td>Socio-economic status, disruptive experiences</td>
<td>Loss of significance, violence permissive attitudes</td>
</tr>
</tbody>
</table>

Fig. 1 Threat model of terrorism
threats may lead to action when someone gets into contact with persons or means (i.e. violence) to combat the source of threat (see also Doosje et al. 2013; King and Taylor 2011; Klausen 2015). In extreme cases of suicide terrorism, perceived threats are so immanent that they require an ultimate sacrifice in order to achieve significance again (de Graaf 2017; cf. Versteegt et al. 2018).

**Study 1: Socio-economic determinants of terrorism**

In our quantitative study, we utilized two data sources. An anonymized database from the Dutch prosecution office was used to identify all suspects who were accused of ‘crimes with terrorist intent’ in the Netherlands (based on the Terrorist Act 2004) between 2004 and April 2017. This comprises the complete population of terrorism suspects since the introduction of the Crimes of Terrorism Act. This dataset could be combined with several anonymous datasets on general statistics from Statistics Netherlands (CBS) to identify quantifiable and registered indicators of factors related to terrorism involvement. The unique combination of these data enabled us to acquire insight into the relationship between various demographics, socio-economic indicators of adversity, previous crime involvement and being a suspect of terrorist activities.

We did not receive the data directly. Instead, the identifiable data about terrorism suspects (population database numbers) from the Dutch prosecution office were sent directly to Statistics Netherlands, where the population database numbers were removed so that the suspects were not identifiable. The data preparation and analyses were conducted via a protected server of Statistics Netherlands.

In total, the database from the Dutch prosecution office consisted of 353 suspects of terrorist offenses. However, a substantial portion of these persons could not be linked to the databases of Statistic Netherlands, because they were not registered in the Personal Records Database (BRP). Individuals who are not registered are most likely illegal immigrants or asylum-seekers whose applications have been rejected. They constituted 21.0% of the sample. For 279 suspects, we had sufficient information about demographics, socio-economic position and their criminal past. This ‘terrorist’ sample \((n = 279)\) is the basis of our quantitative analysis.

We also constructed two control groups. For both the descriptive statistics as well as logistic regression analyses, we created a control offender sample \((n = 279)\) that consisted of non-terrorism suspects of other offenses who are similar to terrorism suspects.

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10 The database contains the personal data of people who (used to) live in Netherlands. Municipalities record the personal data of all residents in the BRP. For information, see: [https://www.government.nl/topics/personal-data/personal-records-database-brp](https://www.government.nl/topics/personal-data/personal-records-database-brp)

11 Research on Dutch jihadi networks demonstrates the involvement of vulnerable immigrants in the Netherlands (De Bie et al. 2014). For additional information on who is excluded from the BRP, see the CBS-website: [https://www.cbs.nl/nl-nl/achtergrond/2017/38/basisregistratie-persoenen](https://www.cbs.nl/nl-nl/achtergrond/2017/38/basisregistratie-persoenen) (this information is only available in Dutch).
suspects along the demographics of age and gender.\textsuperscript{12} Also a general control sample ($n = 6000$) of citizens from the general population was selected, again similar with regard to age and gender.

The datasets from Statistic Netherlands gave us access to the necessary data. However, most of the datasets, which we combined with the dataset from the Dutch prosecution office, did not offer information on the complete time span (2003–2016) that we focused on. Therefore, the tables below show different sample sizes for different variables. It also appeared that there was a lot of missing data on education in general. For this reason, we chose to exclude the education variable from the logistic regression analyses.

Finally, for the dynamic variables that may change over time (e.g., work situation, level of education, suspected of other crimes, et cetera) we used data from the year before the suspicion.\textsuperscript{13} This way we ensured that potential relations we find cannot be interpreted as effects of being a terrorism suspect instead of a potential cause.

In Table 1, we present some general demographic descriptives for the total group of 279 suspects of terrorist offenses for which we had sufficient information. Males dominate within the terrorism suspect population (87.5%). The mean age is 30 (median: 27) during the time of suspicion and the majority of the population is between 18 and 35 years of age (62.6%).

In Table 2, we describe the characteristics of our sample of terrorism suspects together with our two control samples of general suspects and the general population. We present information about origin, level of education, whether they were officially employed or not, and previous involvement in general offending.

The table shows that suspects of terrorist activities have a migrant background more often than general suspects and the general population (81.3% versus 48.4% and 33.2%). This may be the result of the recent wave of jihadi terrorist activities but also reflects the political and police attention that is devoted to this type of terrorism at the moment. Further, suspects of terrorist offenses seem slightly less often officially employed (44.0% versus 50.9% and 58.7%), and they more often lost their

\textsuperscript{12} For age, we made age categories and matched the age groups of the terrorism suspects with the control groups.

\textsuperscript{13} For the dynamic variables of the control groups (which were based on 2016 information), we used data from the year 2015.
job in the year before the suspicion (11.5% versus 6.1% and 3.5%). Later in the analyses we will scrutinize whether these differences also point to significant and independent effects of employment variables. Education levels of terrorist and general suspects are quite similar; in both groups, lower education makes up (almost) two third of the group. Within the general population, less than half of the sample falls within the lower education category. A substantial portion of the terrorism suspects, almost 30%, was involved in general types of offending before they became suspected of terrorist offenses. This is similar to the general suspects, but highly different from the general population of which almost none were suspected of offenses (2.4%). Finally, only a minority has spent time in detention 1 year before becoming a terrorism suspect (9.9%). However, this is comparable to the general

Table 2  Origin, SES and criminality of terrorism suspects, general suspects and population

<table>
<thead>
<tr>
<th>Factors</th>
<th>Category</th>
<th>Terrorism suspects (n = 279)</th>
<th>General suspects (n = 279)</th>
<th>General population (n = 6000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Origin</td>
<td>Non-immigrant</td>
<td>18.6</td>
<td>52</td>
<td>51.6</td>
</tr>
<tr>
<td></td>
<td>First generation</td>
<td>41.2</td>
<td>115</td>
<td>21.9</td>
</tr>
<tr>
<td></td>
<td>Second generation</td>
<td>40.1</td>
<td>112</td>
<td>26.5</td>
</tr>
<tr>
<td>Highest level of education</td>
<td>Lower (n = 170)</td>
<td>62.4</td>
<td>106</td>
<td>67.4</td>
</tr>
<tr>
<td></td>
<td>Middle (n = 224)</td>
<td>33.5</td>
<td>57</td>
<td>28.1</td>
</tr>
<tr>
<td></td>
<td>Higher (n = 4235)</td>
<td>4.1</td>
<td>7</td>
<td>4.5</td>
</tr>
<tr>
<td>Employment</td>
<td>Yes (n = 250)</td>
<td>44.0</td>
<td>110</td>
<td>50.9</td>
</tr>
<tr>
<td></td>
<td>No (n = 250)</td>
<td>56.0</td>
<td>140</td>
<td>49.1</td>
</tr>
<tr>
<td>Job loss? (A year before the suspicion compared to 2 years before the suspicion)</td>
<td>Job loss (n = 250)</td>
<td>11.5</td>
<td>32</td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>Found a job</td>
<td>4.3</td>
<td>12</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td>No change</td>
<td>84.2</td>
<td>206</td>
<td>84.9</td>
</tr>
<tr>
<td>Suspected of offense(s)</td>
<td>Yes (n = 233)</td>
<td>29.2</td>
<td>68</td>
<td>29.4</td>
</tr>
<tr>
<td></td>
<td>No (n = 233)</td>
<td>70.8</td>
<td>165</td>
<td>70.6</td>
</tr>
<tr>
<td>Detention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes (n = 233)</td>
<td>9.9</td>
<td>23</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>No (n = 233)</td>
<td>90.1</td>
<td>210</td>
<td>92.8</td>
</tr>
</tbody>
</table>

The employment variable exists of data on whether or not a person had a job in a specific year. Those without a job can be unemployed on a voluntary or involuntary basis. Therefore, besides being unemployed, those who fall within the category ‘No’ could also be students (and have no need for a (official) job), live from social benefits, or have unofficial jobs.
suspects (7.2%), and much higher than in the general population, were we find that almost no one in the sample (0.5%) was detained before.

In the next analysis, we investigated to which extent the variables from Table 2 had an independent and significant relationship with being a suspect of terrorism.\footnote{As explained before, the education data was excluded from the logistic regression analyses due to the structural missings.} We included 204 terrorism suspects in this analysis for whom we had sufficient information.\footnote{For some terrorism suspects, we had missing data on a range of variables. Therefore, we excluded them from the analyses.}

Table 3 gives an overview of the correlations between different factors and being suspected of a terrorist offense. In the comparison with the general population, we mostly find values between 0.1 (small) and 0.3 (medium) and all of the correlations are significant. We observe a modest positive relation between being a terrorism suspect and having a 1st and 2nd generation immigrant background, being suspected of criminal offenses, and having been in detention. For non-immigrant background we find a negative correlation and for employment (having a job) a very small negative one. The comparison with general offenders, on the other hand, demonstrates that solely origin is significantly correlated with being a terrorism suspect instead of suspects of general types of crime. Here, the other variables are very weakly and non-significant associated with being a terrorism suspect instead of a general suspect.

Table 4 present the results from two logistic regression models that give us insight in what characteristics/factors are independently associated with an increased likelihood of becoming a terrorism suspect. In regression Model I, terrorism suspects compared to the general population, most of the effects are signifi-

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|}
\hline
Factors & Correlation coefficient Phi & \\
& Terrorism suspect vs. general population & Terrorism suspect vs. general offenders \\
\hline
Origin & & \\
Non-immigrant & $-0.208^{***}$ & $-0.345^{***}$ \\
First generation immigrant & $0.110^{***}$ & $0.208^{***}$ \\
Second generation immigrant & $0.155^{***}$ & $0.144^{**}$ \\
Employment & $-0.058^{***}$ & $-0.069$ \\
Job loss & $0.086^{***}$ & $0.095^{*}$ \\
Found job & $-0.018$ & $-0.094^{*}$ \\
Suspected of criminal offenses & $0.273^{***}$ & $-0.002$ \\
Detention & $0.191^{***}$ & $0.049$ \\
\hline
\end{tabular}
\caption{Associations between being a terrorism suspect and origin, employment and previous offending variables}
\end{table}
Table 4  Summary of logistic regression analyses for variables predicting being a terrorism suspect

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model I: Terrorism suspect vs. general population</th>
<th>Model II: Terrorism suspect vs. general suspects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (SE)</td>
<td>Adj. odds ratio</td>
</tr>
<tr>
<td>Origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-immigrant (ref.) (ref.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st generation immigrant</td>
<td>1.795 (.195)***</td>
<td>6.02 [4.11, 8.82]</td>
</tr>
<tr>
<td>Job loss (trigger)</td>
<td>1.195 (.255)***</td>
<td>3.30 [2.01, 5.44]</td>
</tr>
<tr>
<td>Found job (trigger)</td>
<td>−.731 (.380)</td>
<td>.48 [.23, 1.01]</td>
</tr>
<tr>
<td>No official employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspected of criminal offenses</td>
<td>2.413 (.203)***</td>
<td>11.17 [7.50, 16.62]</td>
</tr>
<tr>
<td>Detention</td>
<td>1.236 (.362)**</td>
<td>3.441 [1.69, 7.00]</td>
</tr>
<tr>
<td>N</td>
<td>6204</td>
<td></td>
</tr>
<tr>
<td>Model fit</td>
<td>$R^2 = .228$ (Nagelkerke) Hosmer and Lemeshow test: .455</td>
<td>$R^2 = .144$ (Nagelkerke) Hosmer and Lemeshow test: .283</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001

People with an immigrant background have a higher probability of becoming a terrorism suspect than others in the population. Also losing a job in the previous year predicts an increased likelihood of becoming a terrorism suspect. Interestingly, the opposite situation of finding a job does not have an effect. Also previously being suspected of other criminal offenses is related to an increased likelihood of becoming a terrorism suspect, and the effect is relatively strong (estimated odds ratio of more than 11). Finally, being in detention in the year before is also positively related to an increased likelihood of becoming a terrorism suspect.

Model II, terrorism suspects compared to general suspects, shows that none of the effects related to work situation or criminality are significantly related to the distinction between being a terrorism suspect and a general suspect. Solely origin, having an immigrant background compared to not having an immigrant background, predicts an increased likelihood of becoming a terrorism suspect instead of a general suspect. In line with the descriptive data, this confirms that terrorism suspects and general suspects are similar on most of the characteristics discussed.

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16 Inclusion of the variable unemployment in Model I resulted in a significant Hosmer en Lemeshow test, which is an indication that the model is not a good fit. Therefore, we ran Model I without this variable.
In sum, origin (1st and 2nd generation immigrant), job loss, being suspected of other offenses and detention can be seen as risk factors in getting involved in terrorist crimes. However, terrorism suspects do not significantly differ from general suspects on SES characteristics and criminal history.

Study 2: Qualitative Analysis of Perceived Threat and Individual Involvement in Terrorism

In our qualitative Study 2 (for an extensive report, see Versteegt et al. 2018), we interviewed 30 people to capture the life events, socio-economic backgrounds and involvement mechanisms of people who were detained as a suspect of terrorist offenses. We conducted our study in the two prisons in The Netherlands that have a so-called terrorist unit.

We were able to recruit four inmates in the terrorism units, which we interviewed extensively. To contextualize our findings about the terrorism suspects, we interviewed eight inmates of other units of the prison. Because the participation among the detainees of the terrorist unit was low, we also interviewed 18 persons that were working in or around the terrorist units and had in-depth knowledge about current and former detainees that were suspected of terrorist offenses. These ‘informants’ included prison wardens and mentors, spiritual caretakers and psychologists at the prison, which ensured a variety of perspectives. We also conducted a focus-group interview with informants inside the prison.

We used a semi-structured questionnaire to assess the background, socialization and previous development of the detainees, as well as their ideology and experiences with socio-economic and personal setbacks and adversities. Additionally, we employed a calendar instrument, adapted from a version that was developed in a previous study on the lives of incarcerated women (Joosen and Slotboom 2015). With this instrument, detainees could indicate the socio-economic situation and events in their personal life during the last year prior to their offense. We also asked the informants to complete a life event calendar for one particular detainee that they had sufficient information on. Through various open questions, we looked for signals of socio-economic and personal adversities, we investigated their psychosocial wellbeing and mental health, and asked about their religious and ideological attitudes. We also asked details about their family background, childhood experiences and socialization.

The use of informants may seem limited because they can have instrumental reasons to express particular views about the inmates of the terrorist units. However, we have taken several measures to increase and evaluate the reliability of the informant reports. In order to prevent a biased response from only prison workers, we interviewed lawyers as well, and people working for the probation office – both professionals with their own point of view, and not employed by the prison. Informants from these different groups were generally in agreement about the ter-
rorism suspects. Further, it turned out that two of the calendars taken from informants referred to an individual who were also in our sample as a respondent. This enabled us to compare the information in the life histories from two sources, and these appeared to be remarkably consistent. Therefore, we do not believe that the responses from the informants are systematically biased. Workers in the prison did express criticism of the prison system and specific legal procedures associated with the terrorist unit though, but we collected these statements anonymously in a separate document for the prison director and left this out of the analysis.

To guarantee anonymity, we are very careful in how we present our data. As the terrorist units house less than 30 prisoners in total, and the professionals working with them are limited in number as well, we present the quotes without specific reference to age, gender or profession. In our presentation of the interview quotes, the inmates are referred to as “detainees”. The various people with professional personal contact with the terrorist suspects are referred to as “informants”.

We provided all the respondents with a distinguishing code for their category, and a number for each individual. These are the codes that we used to present the quotes:

A: terrorist suspects
B: suspects of regular criminal offences (the control group)
C: professionals working inside the prison
D: professionals working outside the prison

Our findings partly confirm the quantitative findings, but also nuance these and add some other elements that may be important to understand why and how people become involved in terrorism.

With regard to education, there appeared to be a difference between detainees from the terrorist units that were regarded as ‘leaders’ and detainees that were seen as merely ‘followers’. The followers had a relatively low level of education, while the average educational level of the leaders was higher than that of the followers and also the regular detainees. However, the informants reported that in many cases, their acquired status and their economic situation did not match their educational level and their capacities. This difference between expectations and real outcomes may have contributed to feelings of significance loss in this group, leaving them with cognitive dissonance about the contrast between their intellectual abilities and their experienced opportunities in society. These experiences may have made them susceptible to an extremist ideology.

Informant D10, working outside the prison, states: “One person had a very high education and he literally said: so they keep rejecting me because of my ethnic background, I probably don’t belong. Let me find a place where I do belong and where they do respect me.”

Similarly, informant C13, working in the prison, notes:

They (the whole group, IV) are rather well educated; they are not doing so badly. There are many people in a similar situation, who do not radicalize. (Later): In their educational situation, they are not the needy. Very often, they have a better than average intelligence and they have read many books, too.
With regard to employment, the interviews provide additional information to the quantitative study that could not distinguish between jobless people, students, and under aged persons. In our qualitative study, we found that previous employment through jobs and independent companies is not uncommon among the interviewed suspects at the terrorism unit, while long term unemployment was more common in the group of regular detainees that we interviewed (4 of 8 cases). The informants confirmed that unemployment was not the rule for terrorist suspects.

Interviewer: Did they have jobs?
Informant C3: Definitely.
I: More than at the regular prison?
C3: Oh yes, much more.

The jobs of the terrorism suspects varied from simple technical jobs at a low wage, to management jobs. The general impression of the informants was that suspects at the terrorist units had better jobs than the regular detainees. However, in several cases, terrorist suspects had lost their job a few years prior to their crime. This was reported by three of the four respondents in the terrorism unit. Two of our respondents explained how they had become obsolete in a company that they had worked in for a longer period of time. This is what a detainee (A14) at the terrorist unit told us about employment:

At the moment of the terrorist offense, “I was unemployed. I had been fired after a large reorganization in a company where I had worked over 10 years, and where I had enjoyed working. After losing his job, I unsuccessfully applied for jobs.” The terrorist suspect added that the strained job market made it difficult to find employment.

We found no indication, however, that the income situation was extremely stressful for the terrorism unit inmates prior to their offence. Debts, receiving social benefits and criminality were not mentioned more by the respondents and informants (even slightly less) for the terrorist unit than by the respondents from the control group.

With regard to housing, detainees at the terrorist unit seemed to be less deprived than regular detainees. One of our informants describes the general picture of the terrorist unit group in terms of housing:

Informant inside the prison, C4: “Most of them lived with their parents or with a partner.”

A similar picture of relatively stable housing conditions emerged from a focus group interview with informants working inside the prison:

Focus group informant: “In all those years in the terrorist unit, we had only five persons who were homeless.”

Overall, there are no outspoken objective differences between the two research groups (terrorist unit detainees and regular detainees). We did not find striking differences in socio-economic markers like education, jobs, and housing between terrorist and regular detainees – and there are indications that the terrorist unit detainees may even be slightly “better off”.

Next to these socio-economic variables, psychosocial and mental health factors may have contributed to the development of extremist thought (see Weenink 2015).
However, our informants did not agree on this topic. Some of them mentioned ADHD, post-traumatic stress, autism and attachment issues for the detainees of terrorism units. According to some informants, PTST and attachment disorders may have made detainees vulnerable to social failure and deprivation, but they may also have made them more susceptible to group pressure. Some informants mentioned a proneness to violence, possibly related to psychopathology and narcissism, for the supposed leaders. One informant explained the difference in mental illnesses and disorders between leaders and followers as follows:

*Informant C2, working inside the prison: “There are leaders and followers. Besides the difference in IQ, these people are also different in their personalities. The leaders are natural leaders, they are highly educated and could also have been leaders in some other organization. They tend to have these personality disorders like narcissism, bipolar disorder, or anti-social disorders. The followers have a low education and are easily influenced. They are very vulnerable, can have depressions and a low self-image”.*

In terms of adverse experiences, terrorist unit and regular detainees also appear to share many characteristics. Both groups report various experiences of discrimination, trauma, and personal setbacks. However, the terrorist detainees seem to perceive these experiences as more severe and as signs of social injustice, while the regular detainees seemed to accept their problems as part of life and as something they should cope with personally.

*Informant C1, working in the prison: “I always wonder if they have experienced more losses, I don’t think so. But they are triggered by these events to question life.”*  

*Respondent A22: “If I had to describe them (his fellow inmates at the terrorist unit): they are sensitive guys. They cannot deal with injustice. I can let go of things. They cannot.”*

These findings left us wondering why adverse events created more significance issues, and stronger feelings of relative deprivation in the inmates from the terrorist units. We found three possible, interrelated characteristics of the terrorist group, which may explain these differences in perception.

First, we have found indications that the *early family life* of the extremist group was less stable – this notion is based more on the accounts of our informants than on the stories of our respondents, who seemed to provide mainly social desirable answers about their family life. The informants mentioned that divorce of parents and dysfunctional, broken families are very common among the detainees of the terrorist unit. According to some of our informants, such circumstances occurred in more than 80% of the cases (expressed in a focus group interview in prison, as well as estimated by one informant outside prison, D10). In many families, parents were (said to be) unable to provide stability and unconditional love. Other factors that were mentioned included culturally transferred patterns of strict or abusive parenting, or ‘spoiling’ and pedagogical-moral neglect. Such impoverished settings may create trauma in young children – especially when their family stands out negatively in a larger cultural community, and when criticism of parents is a cultural taboo.

An interview with an informant, working at the terrorist unit, illustrates this:

*C4: “(...) There was more instability in the situation at home, which is my impression.”  
I: “Can we speak of attachment disorders?”*
C4: “Absolutely. Whereas the image of mother, within the culture, remains intact. There is a big discrepancy there. Parents must be talked about with a lot of respect. Mother is almost a saint. ‘Paradise is at the feet of the mother’, that is how it is written in the Qur’an. But this particular mother often neglected things, or refrained from doing things, or was unable to do them.”

Another illustration from a focus interview with professionals working at the terrorist unit:

Focus group informant: “In at least 90% [other person corrects this number] or definitely 80%...we see broken families, a criminal past, drug issues, no relationship with the father. In such a situation it may happen that you start seeing yourself as a loser. And then suddenly, someone shows up.... They did not finish their school, they never finished anything. Very often, youth care has been involved. We have had someone here, he kept searching. He had been an animal activist, he had been with the Lord, and now he ended up in radical Islam. It was just never right, and he kept looking for something else. Looking for recognition, looking for brotherhood. To belong somewhere, because they failed, that’s how they feel.”

Second, in interviews with detainees from the terrorist units as well as with the informants we found indications that a search for meaning, identity and belonging was strongly present in the lives of the terrorist unit detainees. They seemed, more so than the control group, sensitive to a narrative that provides them with an identity, a sense of belonging, and moral guidelines from authority figures they can love as their surrogate family.

Informant inside the prison, C4: “There is a difference. These people really have brothers. Normal detainees have friends that buy drugs from them. These people have a brotherhood, which really feels very intense to them.

Informant inside the prison, C1: “I can imagine that this brotherhood really means a lot to them. When you feel you have always been treated like an outcast actually...and suddenly there is someone who...uses these ‘lover boy’- like methods...With all those hugs, too...”

I: “Hugs?”
R: “They keep embracing each other on every occasion”.

This search for belonging may be interpreted as a result of to the reported early life instabilities. The (mental or physical) unavailability of a primary caretaker may have generated attachment problems in children, and as young adults, this may have left them with an anxiety-driven need to find social bonds. The narrative of ‘brotherhood’ in extremist organizations literally provides individuals with a stable and reliable family. Persons with attachment problems also often seek identification figures to admire. We heard stories among our informants about celebrity worship syndromes of detainees in the terrorist units (towards Mohammed B., the killer of Theo van Gogh, for example), and religious obsessions. Also the tendency of the terrorist unit inmates to hug each other, and form strong social pacts, may be seen as indications that the need for social bonding in these individuals has pathological and obsessive elements, which could stem from childhood trauma.

A third factor that set apart the detainees from the terrorism unit from the regular detainees, were the coping strategies and narratives they used to deal with adversities. We found that regular detainees more often relied on religious coping strategies
to deal with experiences of personal or social injustice or fell back on reasoning that enabled them to keep their faith in social justice and humanity (‘Just World narratives’).

Respondent from the control group, B2: “I found out, in life, you just have to make the best of it. It can be over any time” (…). “You have to be able to deal with difficult situations. You have to see through the darkness, towards the light.

Such examples of ‘coping’ narratives were not found in the stories from the terrorism unit respondents. Regular detainees were also less distrusting of the prison staff and held compassionate views of their fellow human beings and their mistakes. Terrorist unit detainees on the other side tended to judge all events as further contributions to their victimhood, according to multiple accounts of our informants. Events that had a negative outcome for them were interpreted as deliberate mistreatment and discrimination, even if they probably were not.

A discussion with a focus group of informants inside the prison illustrates this:

I: “Do they talk about discrimination?”
Focus group informant 1: Oh yes. That is the main storyline.
I: The main storyline?
Focus group informant 1 and 2: Yes, they will say they are victims, and the government hates them.
I: Do you feel that they are more than the other group using stories of discrimination and deprivation?
Several informants: “Oh yes. All the time”
Focus group informant 1: “Anything. They return from the court, and things did not work out positively, then everybody is plotting against them. Here, at prison, everyone is plotting against them.

Adding to this, the inmates at the terrorist unit seem to worry a lot about social injustice, morality, world problems, and their own destiny, according to informants. They were described as psychologically vulnerable and less able to cope with setbacks in comparison to the regular detainees, who expressed more healthy coping strategies.

Informant C4, working inside the prison: “They never felt able to cope with injustice. But due to the IS ideology, they suddenly feel stronger (…).”

Lastly, we found that the role of religion (Islam) in the development of involvement in jihadi terrorism is different than often thought. Most of the terrorist detainees seemed to be not very well informed about the Islam and did not have a thorough knowledge of the Quran. Instead, they became attracted to the powerful representation of the Salafi – Jihadi discourse on the internet of the Islam as “one universal truth” in which the hypocrites must be discarded from the true believers. For them, this resonates with the vague notions of Islam their parents have provided them with, notably that of ‘being a good Muslim’, and it makes them believe that this representation of Islam is correct.

Detainee A13 from the terrorist unit explains: “I had quit using alcohol, I was making my life better. I wanted to be a good Muslim. I was looking for something new, actually I was… looking for my identity. Then I talked with a couple of men, friends of mine, about Syria and
they said, that is where you should go. If you want to be significant as a Muslim. There is no war at all. There are just Muslims who need your help. So I wanted to go there, see what I could do, make a new start.

Similarly, in the accounts of one detainee in our sample and several informants, it appears that right-wing extremist detaineees were politically not very well informed. Instead, they were sensitive to the general narrative of ‘the foreign threat to the Dutch identity and society’ together with a desire to help protect society from these dangers.

**Conclusion and Discussion**

In this chapter, we first proposed a threat model of terrorism, as a theoretical framework for organizing and interpreting the major socio-economic and psychological determinants of terrorism involvement. Drawing upon intergroup notions of strain, perceived threat and significance loss, our model lays out a clear distinction between proximal and distal threat triggers, and identifies multiple emotional and cognitive processes linking those triggers to the behavioural outcome: unlawful activity with terrorist intent.

We utilized recent quantitative and qualitative data to test the model. In the quantitative study we combined and analysed existing data sets that were available for the complete Dutch population of suspects of terrorist offenses since the introduction of the Crimes of Terrorism Act in 2004. The findings show that terrorism suspects belonged more often to ethnic minority groups, were lower educated, were unemployed, and were more likely previously involved in crime than persons from the general population with the same gender and age. They also more often lost their job and were detained previous to becoming involved in terrorist offenses. Among the terrorism suspects, 30% were registered for other criminal offense(s) in the year before becoming known to police for terrorist offense. In the multivariate analyses we found that economic adversity and criminality substantially and independently increase the likelihood of becoming a terrorism suspect for the general population. These findings offer initial support the proposed threat model as well as its theoretical antecedents (Doosje et al. 2016; see also Ljujic et al. 2017; Pare and Felson 2014). However, terrorism suspects did not differ significantly from general suspects in terms of individual strains and adversities. This means that additional factors and processes are needed to fully understand why people become involved in terrorist activities.

In the qualitative study, we complemented the quantitative analyses with an in-depth account of the motives, experiences and life histories of persons involved in terrorist activities in the Netherlands. Consistent with the first study, the findings suggest that terrorist offenders and other, regular, detainees have similar life courses to a certain extent, and both groups are not very different in socio-economic position and experiences of deprivation and discrimination. Moreover, the qualitative study shows that both groups also often encountered personal adversities in other
life spheres and were reported to have various types of mental health problems. Different from general offenders, however, terrorist offenders perceive these setbacks and experiences of deprivation as more severe and signs of social injustice. We found that this was related to three other characteristics that were more typical for the terrorism offender group: an instable and impoverished early family life, an intense search for meaning and identity and need for acceptance, and coping strategies that were not adaptive but instead constantly reaffirmed their perceived victimhood. In the end, these suspects have encountered ‘a bunch of guys’ that introduced them to a network with an extremist narrative or were attracted by the strong but simplified narratives they found on the internet. This susceptibility to ideological (peer) indoctrination went hand in hand with their strong need for significance and belonging, and may be explained by several psychological conditions, such as attachment issues and mental disorders that impair social reasoning and impulse control. The childhood problems of the terrorism suspects may have created a susceptibility to find belonging in deviant social networks. This susceptibility was further aggravated by deprivation, and experiences of discrimination, social exclusion and loss. The narrative of the extremist networks specifically addresses these feelings of rejection and puts it in a global perspective of urgency, belonging and heroism, as well as personal gain. These processes were most outspoken for suspects with a jihadi background, but also seemed to be applicable to right-wing extremists.

In sum, the findings support the threat model but also extend it. We found that distal threat triggers such as conflicts abroad and socio-economic differences within the population can contribute to emotional and cognitive responses among extremists. Muslim extremism frames group threat as indications of a devalued and discriminated minority, whereas right wing extremism exploits popular resentments about immigrants, which threaten the ethno-national identity. Besides shaping one’s cognitive and emotional responses towards ‘threatening’ others (Ljujic et al. 2011), threats also provide a ‘convenient’ rationale for intergroup violence (Feldman and Stenner 1997), including terrorism (Staub 2004). However, these extremist narratives may appeal to many, but only a few become actually involved in terrorism. The results of our research show that proximal personal factors (such as economic hardship and disruptive life experiences), may be crucial to our understanding of involvement in terrorist offenses. Adding to this, our results suggest that early family experiences, attachment problems, and mental health issues may have contributed significantly to feelings of perceived threat and a susceptibility to appealing narratives that promise feelings of belonging and significance.

To a certain extent, these life histories that are associated with involvement in terrorism and extremism may be a matter of chance and a series of bad luck, as well as meeting the wrong persons or internet sites at the wrong time. However, our study also provides evidence that one’s path to terrorism is driven by tangible socio-economic and psychological factors that might be addressed by professionals, policy makers and the criminal justice system. In this respect, Dutch society is facing a twofold challenge: to prevent engagement in terrorism, but also, to stimulate de-engagement and re-socialization of convicted terrorism offenders. To these ends, a better understanding of the role of perceived threat in radicalization trajectories (cf.
McCaul and Moskalenko (2008) is necessary to counter extremism and terrorism and to prevent recidivism.

It is important to note that our study has various limitations. A strong feature of our quantitative study was that we were able to get access to data about the complete population of terrorism suspects since terrorism was distinguished as a separate offense in the Netherlands. However, a limitation was that we could only retrieve general information about socio-economic characteristics and previous involvement in crime, and could not go into detail about life histories and events. The findings were also limited in the sense that for a part of our sample, we lacked sufficient information on characteristics such as education and employment situation. A strong feature of our qualitative study that we gained access to respondents and informants in specialized prison terrorist units, that enabled us to get access to in-depth information about the life histories and personal backgrounds of current and former terrorism suspects, as well as regular detainees. However, the findings were limited in the relatively low number of respondents that we could speak, and also had to rely on information we got from informants. Although the information from the informants was often consistent and uniform, and were quite similar for those working inside and outside prison, we cannot rule out the possibility that their observations are incomplete or that experiences with some detainees in the past were generalized too much to the complete population.

All in all, our findings offer interesting and plausible insights about the backgrounds of terrorism offenders in the Netherlands and the processes that may lead to their involvement in terrorist crimes, but our results need to be scrutinized in future studies to get more certainty about their validity and generalizability. We therefore hope that the findings presented in this chapter will act as a stimulus for further research in the field.

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Part II
Factors Affecting Recruitment to Organized Crime
Systematic Review of the Social, Psychological and Economic Factors Relating to Involvement and Recruitment into Organized Crime

Tommaso Comunale, Francesco Calderoni, Martina Marchesi, Elisa Superchi, and Gian Maria Campedelli

Background: Recruitment into Organized Crime

Organized crime (henceforth OC) differs from general and serious crime due to the higher complexity of the criminal activities, often requiring a network of transnational contacts to identify suitable and trustworthy co-offenders or contacts with the legal world (Cornish and Clarke 2002; Kleemans and De Poot 2008). The relevance of social ties among OC offenders and the social environment constitutes the heart of early studies on criminal organizations as the mafias (Albini 1971; Cressey 1969; Ianni 1974). The social embeddedness of OC drove more recent analyses on the sociocultural processes shaping recruitment pathways and criminal careers of OC offenders (Kleemans and De Poot 2008; Kleemans and Van de Bunt 1999, 2008; Kleemans and Van Koppen 2014). The complex dynamics underlying individuals’ involvement into OC have contributed to the resilience of organized crime groups (henceforth OCGs), one of their most distinct features. The ability of rapidly reorganizing and constantly recruiting new members has also favored the consolidation of OCGs in some geographic areas (e.g. the mafias in Italy). Literature on recruitment into OC has not only focused on social factors for involvement into OCGs, but scientific enquiries have also investigated psychological (Ostrosky et al. 2012) and economic factors (Lavezzi 2008, 2014).

As for social factors, people get involved into OC through social and work ties. Social ties with co-offenders and with the legal world play a central role in the success of OC-related activities. Furthermore, social ties may create a “social snowball effect”.

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1 Involvement into OC also takes place through leisure activities, because of life events or through deliberate recruitment by criminal organizations. For more details, see Kleemans and Van Koppen (2014).

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a process in which people get involved in OC through people that are close to them (Kleemans and Van Koppen 2014, p. 288). Relations between individuals bridge social and criminal networks – also across countries – providing new criminal opportunities and solve problems of cooperation in hostile environments in which offenders carry out illegal activities. Opportunities for committing OC may also arise through work ties. Occupation settings offer good opportunities to gain trust in someone else, essential for activities involving financial and other risks. For instance, working in the mobility, transport, and logistics sector may provide opportunities for cross-border OC activities. Criminal co-operations therefore may be established through peoples’ international contacts and travel movements; through their individual freedom of movement; and through their occupations enabling them to meet with potential co-offenders (Kleemans and Van de Bunt 2008). Once part of a criminal network, one’s criminal career can take different paths depending on his/her roles and responsibilities. In this regard, Kleemans and de Poot (2008) highlight four major roles: offenders with strong local roots, individuals specialized in some activities, individuals obtaining increasing roles through capital accumulation, and offenders who possess specific skills or expertise that make the other offenders dependent from them. For these reasons, recruitment into OCGs and criminal careers can also take place during adulthood among late starters – i.e. adult members with no previous criminal involvement (Kleemans and Van Koppen 2014). Thus, a career in OC does not necessarily start in early adolescence, where individual characteristics and long-term risk factors may serve as an explanation for a lifetime involvement in crime.

Psychological factors have also been assumed to influence individuals’ recruitment into OCGs. Information on psychological traits of OC offenders, however, is limited because of the relatively small population, which is difficult to reach also in contexts of detention. Prior studies about OC relied on the Psychopathy Check List-Revised (Ostrosky et al. 2012), a controversial instrument resting on the contested concept of psychopathy, bearing a number of limitations (Jones et al. 2013). Other neuroscientific tools such as neuropsychological and genetic tests, as well as neuroimaging, are widely used in courts to explain and sometimes justify criminal behavior (Walsh and Beaver 2009). To advance the understanding of the psychological determinants of criminal behavior, such tools might be adopted for criminological purposes. Moreover, when investigating the psychological factors for the recruitment into OCGs, researchers may also take into consideration other types of disorders, e.g. substance abuse disorders, low self-control and/or a history of past disorders and negative development.

Economic risk factors have also emerged as relevant in addressing the processes shaping individuals’ recruitment into OCGs. Lavezzi (2008, 2014), for instance, identified several aspects that make Sicily’s economy vulnerable to OC penetration. Extortion and protection are common in Sicily, whose economy is characterized by a large proportion of small firms, large sectors of traditional/low-tech economic activity, a large construction sector, and a large public sector (Lavezzi 2008). Opportunities for OCGs also emerge from impairments to the rule of law and the presence of illegal and informal markets (Bandiera 2003). Fluctuations and irregularities in the credit markets, for example, may create opportunities for usury. In addition, inequality has been indicated as a possible facilitator in the emergence of OCGs. Data from Italian regions show a remarkable correlation between high-
income inequality and the spread of OC (Daniele 2009). The majority of scientific studies has focused on the relation between economic risk factors and OC at the macro-level, but economic disadvantages can also influence the individuals’ propensity to join OCGs (Carvalho and Soares 2016).

Despite the increasing number of studies on several aspects of OC, to date little systematized information is available on the social, psychological and economic factors that lead to involvement in OC. This systematic review embraces a broad perspective encompassing several aspects related to recruitment into OCGs (e.g. age, gender, social ties, economic conditions, criminal background and skills).²

In line with these purposes, this systematic review firstly aims at identifying the current knowledge on social, psychological, and economic factors relating to recruitment to OCGs. It will also highlight whether these factors are independent of one other or they are correlated. Secondly, this review aims at assessing the validity and generalizability of research findings of studies employing different research methods and focusing on different countries. In this regard, this systematic review seeks to answer two sets of research questions:

• What are the most commonly reported social, psychological, and economic factors leading to criminalisation and recruitment into OC networks? Are they to be viewed independently of one another?
• Which methods do included studies apply? Are findings consistent through studies employing different methods and adopting different geographic scopes?

The systematic assessment of the empirical evidence on such factors contributes to the consolidation of the knowledge on involvement into OC and may inform the policy making process. In addition, research findings will serve to set direction for future enquiries aimed at revealing the underlying dynamics of recruitment into OCGs.

Methodology

Operational Definitions of Organized Crime

This study aims at revealing the factors associated with recruitment into OC. The concept of recruitment refers to the different processes leading individuals to the stable involvement into OCGs. While this interpretation is broader than the formal affiliation to any OCG, it excludes individuals occasionally cooperating or co-offending with OCGs.

² Previous systematic reviews have focused on youth gang membership and interventions (Hodgkinson et al. 2009; Klein and Maxson 2006). The Campbell Collaboration, for example, has published two systematic reviews on the involvement of young people in gangs (Fisher et al. 2008a, b), and more recently one on predictors of youth gang membership in low- and middle-income countries (Higginson et al. 2014). These reviews did not consider the factors relating to membership in other types of groups involved in crime, namely OCGs.
As for organized crime, divergent approaches adopted by governments and policymakers for long resulted in the difficulty to produce a uniform definition (see Paoli 2014a).

This systematic review adopts the definition of organized crime (OC) by the United Nations Convention against Transnational Organized Crime (United Nations 2000, p. 5):

‘Organized criminal’ group shall mean 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 or offences established in accordance with this Convention, in order to obtain, directly or indirectly, a financial or other material benefit.

The UN definition is generally accepted from a legal perspective, though some scholars have criticized it for being rather generic and unspecific (Albrecht and Fijnaut 2002; Paoli 2014a). Despite limitations, the UN definition encompasses different forms of OC, allowing this systematic review to include several types of OCGs: mafias, DTOs, gangs, and a residual category labelled “other criminal organizations”.

Mafias are characterized by a remarkable longevity, an organizational and cultural complexity enforcing the respect of the code of silence (i.e. omertà). In addition, mafias’ ability to control legitimate markets and to exercise a political dominion over their areas of settlement, frequently using private violence and simultaneously supplying protection against extortion, competitors and law enforcement (Finckenauer 2007; Gambetta 1993; Paoli 2014b; Varese 2010). DTOs are complex organizations involved in the production, transport and/or distribution of large quantities of illicit drugs through a business-like structure (Clapper 2015; Knox and Gray 2014; U.S. Department of Justice 2010). As regards to gangs, given the important share of adult offenders in OC and the relevance of the ties to the legitimate world, this study excludes youth (street) gangs and prison gangs in favor of criminal gangs composed of adults with different degrees of organizational structure. This study therefore considers “criminal gangs” those groups of adults following a code of conduct, having common beliefs and existing in a semi-structured organization oriented to accomplish their goals through criminal activity (Langston 2003). Lastly, the label “other criminal organizations” encompasses different groups that “utilize violence or threats of violence, provide illicit goods that are in public demand, and assure immunity for their operators through corruption and enforcement” (Hagan 2015, p. 395). These comprise for instance outlaw motorcycle gangs and other OCGs active in specific world regions (e.g. the Balkans).

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3This choice is also due to the fact that the literature generally considers youth street gangs as different from OCGs (Decker and Pyrooz 2014). Furthermore, a recent systematic review has already assessed the factors leading to youth gang membership (Higginson et al. 2014). Similarly, while there is a relevant literature on prison gangs, this field is mostly separate from the literature on OC, which emphasizes the social embeddedness and the role of ties with the legitimate world. Prison gangs, on the contrary, occur in a specific and institutionalized settings and recruitment is influenced by contextual factors (Blevins et al. 2010; Wood et al. 2014).
Search Strategy and Selection of the Relevant Studies

This systematic review relies on academic and grey literature retrieved from 12 electronic databases in English, French, German, Italian, and Spanish. The databases include different research fields, without limitations as to their year of publication or geographic origin.

A three-fold query structure incorporated information on social, psychological, and economic factors relating to the recruitment into mafias, DTOs, gangs, and other criminal organizations. The queries combined search terms from each of the three main categories, i.e. type of OCGs, the type of factors, and recruitment. The Boolean operator “OR” connected keywords of the same category, while the Boolean operator “AND” connected keywords from different categories. This query structure ensured the collection of all the studies indexed in the electronic databases containing at least one term from each semantic category.

The search led to the collection of 48,731 unique studies. A systematic screening of these studies selected the relevant information according to shared eligibility criteria. Firstly, a team of trained researchers screened the titles and abstracts of each study to include only the literature making an original research contribution (e.g. excluding news articles or reviews of any type) to the social, psychological, and economic factors relating to the recruitment into OCGs. Of the initial studies, 118 met the inclusion criteria. This initial list of studies was then integrated with additional literature from their bibliographies, as well as with the suggestions of several experts in the field of OC. These activities led to a total of 130 studies available for full-text screening. Secondly, the full-text screening further selected the studies according to stricter criteria. Only empirical studies were included. Of the remaining 57 empirical studies, 47 studies had a clear research aim and an appropriate research methodology, design, recruitment strategy, and data collection.

This systematic review included studies adopting quantitative, qualitative, or mixed-methods approaches. Systematic reviews have generally excluded qualitative research although there has been much debate on its incorporation (see Dixon-

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Dutch was excluded from the search as contacts with Dutch scholars confirmed that empirical studies in this field have also been published in English.

5 The experts that contributed to this systematic review are: Jay Albanese (Virginia Commonwealth University, USA), Paolo Campana (University of Cambridge, UK), Scott Decker (Arizona State University, USA), Edward Kleemans (Vrije University of Amsterdam, NL), Klaus Von Lampe (John Jay College of Criminal Justice, USA), Carlo Morselli (University of Montreal, CA), Letizia Paoli (Katholieke Universiteit Leuven, BE), David Pyrooz (University of Colorado Boulder, USA), Sonja Wolf (Centro de Investigación y Docencia Económicas, MEX).

6 The included studies meet the quality criteria set out by an adapted version of the Critical Appraisal Skills Programme (2017) for qualitative studies.
Woods et al. (2006). The reason relies on the fact that systematic reviews aim at studying correlates and risk factors—or at addressing the effectiveness of intervention programs—which require quantitative studies as the primary basis (for risk factors, see Murray et al. 2009). Excluding qualitative contributions from the review, however, could have impacted the research findings, as an important amount of organized crime studies employ either qualitative or mixed-methods approaches. This systematic review therefore considered the inclusion of such methods to provide a more comprehensive, albeit descriptive, overview about the factors leading to recruitment into OCGs.7

In addition, this study relied on grey literature to validate the research findings. Inclusion of grey literature allows to “take into account some important contextual information, without losing the level of rigor required for a systematic review” (Benzies et al. 2006, p. 59). The grey literature considered all available reports issued by the Italian governmental, judicial, and law enforcement institutions on the presence of the Italian mafias in Italy and abroad, namely the Italian Parliamentary Anti-Mafia Commission (CPA), the Italian National Anti-Mafia and Counterterrorism Directorate (DNA), and Anti-Mafia Investigative Directorate (DIA). These sources are relevant as the mafias have some peculiarities differentiating them from the other types of OCGs. Only reports containing relevant information for the purposes of this review were used to corroborate results, namely 8 reports issued by the CPA, 9 by the DNA, and 23 by the DIA.

Results

Description of the Included Studies

The included studies were published between 1969 and 2017, spanning different geographical regions and languages. They also differ according to the type of sources: 6% (n = 3) are dissertations, 36% (n = 17) are books or chapters, and 58% (n = 27) are journal articles. The articles come from 19 journals, mostly pertaining to criminology and related fields of studies.8 The included studies also differ regard-

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7This systematic review was conducted following in part the guidelines provided by the Campbell Collaboration—an international research network promoting and producing systematic reviews—as Campbell reviews are based solely on quantitative findings as primary basis for conclusions. For more details, see https://www.campbellcollaboration.org/library/campbell-collaboration-systematic-reviews-policies-and-guidelines.html

8The journals are: British Journal of Criminology; Crime Law & Social Change; Trends in Organized Crime; European Journal of Criminology; Global Crime; Canadian Journal of Criminology; Criminal Behaviour and Mental Health; Criminology; European Sociological Review; International Journal of Social Psychology; Journal of Criminal Justice; Journal of Economic Behavior & Organization; Justice Policy Journal; Law & Society Review; Policing: An International Journal of Police Strategies & Management; Research and Reports in Forensic Medical Science; Revista Electrónica de Ciencia Penal y Criminología; Social Problems; The Howard Journal of Crime and Justice.
ing the type of OCGs they focus on. Almost half (42%, n = 20) deal with the mafias, especially with the Italian ones, 30% (n = 14) discuss about other criminal organization, above all Dutch ones, and the remaining about gangs (15%, n = 7), and DTOs (13%, n = 6).

The selected studies rely on different types of data collection and methods of analysis. In investigating the social, psychological, and economic factors relating to the recruitment into OCGs, they use both primary and secondary data, and often the combination of the two (Fig. 1, on the left). Due to the difficulties to study the recruitment into OCGs, almost half of the studies (49%, n = 23) relied on the information coming from official data, investigative and judicial files, as well as other documents (e.g. bibliographies and tapes). The remaining half of the studies either integrated information from secondary data with interviews (23%, n = 11), or conducted their research entirely through surveys, interviews, and conversations with informants (28%, n = 13).

The studies applied different methods of analysis (Fig. 1, on the right). More than half of them (57%, n = 27) favored a qualitative approach in dealing with the topic of factors relating to the recruitment into OCGs. The remaining adopted either quantitative (26%, n = 12) or mixed-methods approaches (17%, n = 8) (see Tables 1, 2, and 3, respectively). The scarcity of quantitative studies may be due to the topic of the research itself, i.e. the recruitment into OCGs, is not particularly suitable for such methodological approach. The quantitative approach is further hindered by the difficulties in operationalizing and measuring the social, psychological, and economic factors intervening in the recruiting process.

![Types of data collection and methods of analysis](source: authors’ elaboration of the studies included in this systematic review.)

**Fig. 1** Types of data collection and methods of analysis (n = 47). (Source: authors’ elaboration of the studies included in this systematic review.)
<table>
<thead>
<tr>
<th>Source</th>
<th>Type of OCG</th>
<th>Sample*</th>
<th>Data collection</th>
<th>Data analysis</th>
<th>Categories of factors</th>
<th>Geographic scope</th>
<th>Relevant findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blokland et al. (2017)</td>
<td>Other Criminal Organizations</td>
<td>601</td>
<td>Official data</td>
<td>Descriptive statistics T-test Chi square Logistic regression</td>
<td>Age Criminal background and skills</td>
<td>Netherlands</td>
<td>Outlaw motorcycle gangs’ membership is positively associated with previous criminal records</td>
</tr>
<tr>
<td>Carvalho and Soares (2016)</td>
<td>DTOs</td>
<td>230</td>
<td>Interviews</td>
<td>Descriptive statistics Mincerian regression</td>
<td>Age Ethnicity Educational background Economic conditions</td>
<td>Brazil</td>
<td>Individuals join DTOs for monetary returns</td>
</tr>
<tr>
<td>Kirby et al. (2016)</td>
<td>Other Criminal Organizations</td>
<td>4109</td>
<td>Official data</td>
<td>Descriptive statistics Chi square Kruskal-Wallis test</td>
<td>Age Gender Ethnicity Criminal background and skills</td>
<td>U.K.</td>
<td>Compared with general crime offenders, OC offenders are more predominantly male, more ethnically heterogeneous and with more drug offences records</td>
</tr>
<tr>
<td>Kissner and Pyrooz (2009)</td>
<td>Gangs</td>
<td>200</td>
<td>Interviews</td>
<td>Logistic regression</td>
<td>Age Social ties Psychological factors</td>
<td>U.S.</td>
<td>Persistent gang involvement is associated with poor self-control</td>
</tr>
<tr>
<td>Study</td>
<td>Type</td>
<td>Sample Size</td>
<td>Data Collection</td>
<td>Methodology</td>
<td>Studies</td>
<td>Age</td>
<td>Economic conditions</td>
</tr>
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</tr>
<tr>
<td>Ostrosky et al. (2012)</td>
<td>OCGs &amp; DTOs</td>
<td>82</td>
<td>Interviews; Documents</td>
<td>Descriptive statistics</td>
<td>Mexico</td>
<td>Individuals join DTOs seeking for higher economic income and a lifestyle characterized by the accumulation/showing off of material values</td>
<td></td>
</tr>
<tr>
<td>Requena et al. (2014)</td>
<td>OCGs</td>
<td>200</td>
<td>Investigative files</td>
<td>Descriptive statistics</td>
<td>Spain</td>
<td>Women get involved in OCGs through their personal networks, i.e. family ties and emotional ties</td>
<td></td>
</tr>
<tr>
<td>Salinas and Regadera (2016)</td>
<td>OCGs</td>
<td>2384</td>
<td>Investigative files</td>
<td>Descriptive statistics</td>
<td>Spain</td>
<td>Individuals get involved in OCGs because they possess special expertise developed outside the criminal world</td>
<td></td>
</tr>
<tr>
<td>Schimmenti et al. (2014)</td>
<td>Mafias</td>
<td>69</td>
<td>Interviews</td>
<td>Descriptive statistics T-test Chi square Logistic regression</td>
<td>Psychological factors</td>
<td>Italy</td>
<td>High levels of antisocial traits and low levels of interpersonal-affective traits of psychopathy characterize mafia members</td>
</tr>
<tr>
<td>Unlu and Ekici (2012)</td>
<td>DTOs</td>
<td>230</td>
<td>Investigative files</td>
<td>Descriptive statistics Chi square</td>
<td>Age</td>
<td>Gender Economic conditions</td>
<td>Turkey</td>
</tr>
<tr>
<td>Wang (2013)</td>
<td>DTOs</td>
<td>222</td>
<td>Interviews</td>
<td>Content analysis CHAID Logistic regression</td>
<td>Ethnicity Employment Economic conditions Social ties</td>
<td>U.K.</td>
<td>Early starters get involved in DTOs because of entertainment expenses, while late starters because of financial difficulties</td>
</tr>
</tbody>
</table>

*The sample reports the number of individuals included in the studies*
<table>
<thead>
<tr>
<th>Source</th>
<th>Type of OCG</th>
<th>Data collection</th>
<th>Categories of factors</th>
<th>Geographic scope</th>
<th>Main findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albini (1971)</td>
<td>Mafias</td>
<td>Interviews, informants, Documents</td>
<td>Educational background, Economic conditions, Social ties, Group identity, Criminal background and skills, Silence/Omertà</td>
<td>Italy</td>
<td>Recruitment of individuals into OCGs is also based on friendship, kinship, contract, and patron-client relationships</td>
</tr>
<tr>
<td>Arlacchi (1983)</td>
<td>Mafias</td>
<td>Interviews, Investigative files, Judicial records</td>
<td>Age, Educational background, Social ties, Group identity, Criminal background and skills</td>
<td>Italy</td>
<td>Individuals who get involved in mafias come from the middle-class, have an educational background and possess managerial skills</td>
</tr>
<tr>
<td>Arsovksa (2015)</td>
<td>Other Criminal Organizations</td>
<td>Interviews, Investigative files, Judicial records</td>
<td>Age, Ethnicity, Economic conditions, Social ties, Group identity, Criminal background and skills</td>
<td>Balkans</td>
<td>Individuals are recruited into OCGs based on ethnic ties, kinship ties, and display of violent behavior</td>
</tr>
<tr>
<td>Behan (1996)</td>
<td>Mafias</td>
<td>Interviews, Investigative files</td>
<td>Age, Economic conditions, Social ties, Criminal background and skills</td>
<td>Italy</td>
<td>Incarcerated individuals and especially youngsters attracted by the cult of violence can join the mafias</td>
</tr>
<tr>
<td>Brancaccio (2017)</td>
<td>Mafias</td>
<td>Investigative files, Judicial records</td>
<td>Employment, Economic conditions, Social ties, Criminal background and skills</td>
<td>Italy</td>
<td>Individuals enter the mafias because of kinship and blood ties, coupled with low economic conditions and violent/risk taking behavior</td>
</tr>
<tr>
<td>Brotherton and Barrios (2004)</td>
<td>Gangs</td>
<td>Interviews, Documents</td>
<td>Economic conditions, Group identity</td>
<td>U.S.</td>
<td>While females join gangs through blood ties, males rely on kinship and social relations developed in prison</td>
</tr>
<tr>
<td>Source Type</td>
<td>Mafias/DTOs/Gangs</td>
<td>Methodology</td>
<td>Categories of factors</td>
<td>Country</td>
<td>Main findings</td>
</tr>
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<tr>
<td>Ciconte (1992)</td>
<td>Mafias</td>
<td>Judicial records/Interviews</td>
<td>Age, Ethnicity, Educational background, Employment, Economic conditions, Social ties, Criminal background and skills, Silence/Omertà</td>
<td>Italy</td>
<td>Kinship and blood ties and the lack of legitimate occupations facilitate the involvement into the mafias</td>
</tr>
<tr>
<td>Cressey (1969)</td>
<td>Mafias</td>
<td>Interviews/Investigative files/Judicial records</td>
<td>Age, Ethnicity, Social ties, Group identity, Criminal background and skills, Silence/Omertà</td>
<td>U.S.</td>
<td>Values like honor, loyalty, and silence are crucial for individuals aiming at joining the mafias</td>
</tr>
<tr>
<td>Decker and Chapman (2008)</td>
<td>DTOs</td>
<td>Interviews</td>
<td>Ethnicity, Economic conditions, Social ties, Criminal background and skills</td>
<td>U.S. Latin America</td>
<td>Ethnic ties have a crucial role in DTOs membership</td>
</tr>
<tr>
<td>Densley (2012)</td>
<td>Gangs</td>
<td>Interviews</td>
<td>Group identity, Criminal background and skills</td>
<td>U.K.</td>
<td>Individuals are recruited into gangs based on personal features like criminal competency and group loyalty</td>
</tr>
<tr>
<td>Gambetta (1993)</td>
<td>Mafias</td>
<td>Interviews/Judicial records</td>
<td>Employment, Social ties, Group identity, Criminal background and skills, Silence/Omertà</td>
<td>Italy</td>
<td>Being able to enforce the code of silence and possessing relevant expertise are crucial factors for being recruited into the mafias</td>
</tr>
<tr>
<td>García (2006)</td>
<td>DTOs</td>
<td>Tapes and CDs</td>
<td>Group identity</td>
<td>Mexico</td>
<td>Individuals get involved in DTOs because of their need of power, belonging, respect, security, and pride</td>
</tr>
<tr>
<td>Gordon (2000)</td>
<td>Gangs</td>
<td>Interviews</td>
<td>Ethnicity, Economic conditions, Social ties</td>
<td>Canada</td>
<td>Individuals often access gangs through close friends due to ethnic marginality and the attraction of supportive peer groups</td>
</tr>
<tr>
<td>Source</td>
<td>Type of OCG</td>
<td>Data collection</td>
<td>Categories of factors</td>
<td>Geographic scope</td>
<td>Main findings</td>
</tr>
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</tr>
<tr>
<td>Hess (1993)</td>
<td>Mafias</td>
<td>Judicial records</td>
<td>Educational background, Economic conditions, Social ties, Group identity, Criminal background and skills, Silence/Omertà</td>
<td>Italy</td>
<td>Individuals get involved in the mafias through social relations, especially because of their ability to connect the criminal members with other third parties, like other criminal groups or representative of legal businesses</td>
</tr>
<tr>
<td>Hixon (2010)</td>
<td>Gangs</td>
<td>Interviews</td>
<td>Gender, Group identity, Psychological factors</td>
<td>U.S.</td>
<td>Individuals recruited into OCGs usually have an history of negative and arrested development resulting in antisocial personality disorders</td>
</tr>
<tr>
<td>Lo (2010)</td>
<td>Mafias</td>
<td>Documents</td>
<td>Social ties, Group identity, Criminal background and skills, Silence/Omertà</td>
<td>China</td>
<td>Being able to connect people from different environments favor recruitment into Chinese Triads</td>
</tr>
<tr>
<td>Lupo (1993)</td>
<td>Mafias</td>
<td>Judicial records</td>
<td>Ethnicity, Social ties, Criminal background and skills, Silence/Omertà</td>
<td>Italy</td>
<td>The mafias mainly recruit new members based on ethnicity and kinship and blood ties</td>
</tr>
<tr>
<td>Paoli (2003)</td>
<td>Mafias</td>
<td>Interviews, Documents</td>
<td>Social ties, Group identity, Silence/Omertà</td>
<td>Italy</td>
<td>The contract of fraternization among recruited mafia members extends the bonds of loyalty and obligation beyond family ties, providing mutual support and trust</td>
</tr>
<tr>
<td>Sales (2015)</td>
<td>Mafias</td>
<td>Judicial records, Documents</td>
<td>Educational background, Employment, Economic conditions, Social ties, Criminal background and skills</td>
<td>Italy</td>
<td>Individuals capable of strategic use of violence are recruited into the mafias</td>
</tr>
<tr>
<td>Sciarrone (2014)</td>
<td>Mafias</td>
<td>Judicial records</td>
<td>Social ties</td>
<td>Italy</td>
<td>The mafias mainly recruit new members based blood and kinship ties which are reinforced through an initiation ceremony with specific rituals</td>
</tr>
<tr>
<td>Source</td>
<td>Source Type</td>
<td>Other Criminal Organizations</td>
<td>Investigative files</td>
<td>Economic conditions</td>
<td>Social ties</td>
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<tr>
<td>Sergi (2016)</td>
<td>Other Criminal Organizations</td>
<td>Investigative files Documents</td>
<td>Economic conditions Social ties Group identity Psychological factors</td>
<td>Italy</td>
<td>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</td>
</tr>
<tr>
<td>Van Koppen (2013)</td>
<td>Other Criminal Organizations</td>
<td>Investigative files</td>
<td>Employment Economic conditions Social ties</td>
<td>Netherlands</td>
<td>Individuals engage in OC activities exploiting their skills and kinship and blood ties, as criminals prefer to unfold their activities with family members or close friends</td>
</tr>
<tr>
<td>Van San and Sikkens (2017)</td>
<td>DTOs</td>
<td>Interviews Informants</td>
<td>Gender Economic conditions Social ties</td>
<td>Netherlands Peru</td>
<td>Female smugglers join DTOs mainly through their personal networks, i.e. family ties, romantic relationships, and friendships</td>
</tr>
<tr>
<td>Varese (2001)</td>
<td>Mafias</td>
<td>Interviews Investigative files Judicial records Documents</td>
<td>Social ties Criminal background and skills</td>
<td>Russia</td>
<td>Individuals getting involved in the mafias are recruited from a pool of trusted aspirants with no previous connections with law-enforcement agents</td>
</tr>
<tr>
<td>Varese (2006)</td>
<td>Mafias</td>
<td>Documents</td>
<td>Social ties</td>
<td>Italy</td>
<td>The mafias kin-based system of recruitment facilitates transplantation of criminal activities in a new region: when an entire blood family migrates the criminal group automatically reconstitutes itself</td>
</tr>
<tr>
<td>Varese (2011b)</td>
<td>Mafias</td>
<td>Interviews Judicial records Documents</td>
<td>Ethnicity Social ties Criminal background and skills</td>
<td>Italy Hungary U.S. China</td>
<td>When Russian mafia groups migrates, they recruit new local members based on their dependability and proven ability to use violence</td>
</tr>
<tr>
<td>Zhang and Chin (2002)</td>
<td>Other Criminal Organizations</td>
<td>Interviews</td>
<td>Ethnicity Group identity</td>
<td>U.S. China</td>
<td>Individuals enter Chinese Triads because of their commitment to making money and direct connections in the Chinese communities</td>
</tr>
<tr>
<td>Source</td>
<td>Type of OCG</td>
<td>Data collection</td>
<td>Categories of factors</td>
<td>Geographic scope</td>
<td>Main findings</td>
</tr>
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<tr>
<td>Kleemans and de Poot (2008)</td>
<td>Other Criminal Organizations</td>
<td>Investigative files</td>
<td>Age Employment Social ties Criminal background and skills</td>
<td>Netherlands</td>
<td>Social relations in leisure and work settings may provide opportunities for joining OCGs throughout individuals’ lives</td>
</tr>
<tr>
<td>Kleemans and Van de Bunt (2008)</td>
<td>Other Criminal Organizations</td>
<td>Investigative files</td>
<td>Employment Social ties</td>
<td>Netherlands</td>
<td>Social relations in leisure and work settings may provide opportunities for joining OCGs throughout individuals’ lives</td>
</tr>
<tr>
<td>Morselli (2003)</td>
<td>Mafias</td>
<td>Investigative files Documents</td>
<td>Social ties Criminal background and skills</td>
<td>U.S.</td>
<td>Social relations and their management are crucial in the involvement and career in the mafias</td>
</tr>
<tr>
<td>Salinas, Requena and de la Corte (2011)</td>
<td>Other Criminal Organizations</td>
<td>Interviews Survey</td>
<td>Age Gender Employment Social ties Criminal background and skills</td>
<td>Spain</td>
<td>Individuals join OCGs because their employment could favor illegal activities or to have an additional income to their salary</td>
</tr>
<tr>
<td>Van Koppen et al. (2010b)</td>
<td>Other Criminal Organizations</td>
<td>Investigative files</td>
<td>Age Criminal background and skills</td>
<td>Netherlands</td>
<td>Most of individuals get involved in OCGs when they are adults</td>
</tr>
<tr>
<td>Van Koppen et al. (2010a)</td>
<td>Other Criminal Organizations</td>
<td>Investigative files</td>
<td>Criminal background and skills</td>
<td>Netherlands</td>
<td>Compared with general crime offenders, OC offenders more often have previous and serious judicial records</td>
</tr>
<tr>
<td>Varese (2011a)</td>
<td>Mafias</td>
<td>Investigative files</td>
<td>Gender Ethnicity Social ties</td>
<td>Italy</td>
<td>Women getting involved in the mafias have a more relevant role abroad than in their territory of origin</td>
</tr>
<tr>
<td>Varese (2013)</td>
<td>Mafias</td>
<td>Investigative files</td>
<td>Gender Ethnicity Social ties</td>
<td>Italy</td>
<td>Individuals getting involved in the mafias abroad mainly focus on economic investments and resource acquisition</td>
</tr>
</tbody>
</table>
Table 4  Categories of socio-economic and psychological factors associated with recruitment into OCGs and number of studies reporting on factor categories (n = 184)

<table>
<thead>
<tr>
<th>Category of factors</th>
<th>Explanation of included factors</th>
<th>N. of factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Factors on the age at which individuals are likely to be recruited into OCGs (e.g. youngsters)</td>
<td>17</td>
</tr>
<tr>
<td>Gender</td>
<td>Factors on the differences between genders in being involved in OCGs (e.g. majority of OCGs members are males)</td>
<td>12</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Factors on the ethnic features of OCGs members (e.g. ethnic homogeneity)</td>
<td>13</td>
</tr>
<tr>
<td>Educational background</td>
<td>Factors on the level of education of individuals recruited by OCGs (e.g. illiteracy)</td>
<td>7</td>
</tr>
<tr>
<td>Employment</td>
<td>Factors on the how the lack of employment or the presence of specific work settings can be facilitators for joining OCGs (e.g. employees of logistic companies)</td>
<td>20</td>
</tr>
<tr>
<td>Economic conditions</td>
<td>Factors on how certain economic conditions can facilitate recruitment into OCGs (e.g. poverty)</td>
<td>19</td>
</tr>
<tr>
<td>Social ties</td>
<td>Factors on the relations that provide opportunities for being involved in OCGs (e.g. family ties)</td>
<td>38</td>
</tr>
<tr>
<td>Group identity</td>
<td>Factors on the values and subculture shared by OCGs members (e.g. honor)</td>
<td>18</td>
</tr>
<tr>
<td>Psychological factors</td>
<td>Factors on disorders related to the recruitment into OCGs (e.g. being antisocial)</td>
<td>6</td>
</tr>
<tr>
<td>Criminal background and skills</td>
<td>Factors on how previous criminal records, specific skills and attitudes can increase the opportunities to enter OCGs (e.g. risk-taking behaviors)</td>
<td>35</td>
</tr>
<tr>
<td>Silence/Omertà</td>
<td>Factors on the ability of enforcing the code of silence for being part of OCGs</td>
<td>9</td>
</tr>
</tbody>
</table>

Notwithstanding the differences among the included studies, each of them reported on the social, psychological, and/or economic factors associated with recruitment of individuals to OCGs. After carefully reading all the studies, the research team created categories of factors to organize the relevant information and systematize the knowledge on this field of study. The total number of factors identified across the 47 included studies is 184. The identification of factors in each study and their systematization into 11 categories allows analyzing how many times they are reported. The recurring factors are those related to social ties and criminal background and skills, which respectively appear 38 and 35 times throughout the included studies (Table 4).

Figure 2 highlights the different methodological approaches adopted by the studies reporting on each category of factors. As already underlined, the qualitative approach seems to fit better the study of the factors relating to recruitment into OCGs.
Social, Psychological, and Economic Factors Relating to Recruitment to Organized Crime Groups

Age

The reported age-groups of individuals involved into OC include both youngsters (Arlacchi 1983; Arsovska 2015; Behan 1996; Blokland et al. 2017; Carvalho and Soares 2016; Ciconte 1992; Cressy 1969; Hixon 2010; Kirby et al. 2016; Ostrosky et al. 2012) and adults (Blokland et al. 2017; Kissner and Pyrooz 2009; Kleemans and de Poot 2008; Salinas et al. 2011; Salinas and Regadera 2016; Unlu and Ekici 2012; Van Koppen et al. 2010b). Vulnerable young people join OCGs during adolescence and early adulthood. They are attracted by lifestyles dominated by the cult of violence and by the show off of material goods (Behan 1996; Hixon 2010; Ostrosky et al. 2012). The risk of recruitment at younger ages is also positively associated with problems at school, drug use, low socio-economic conditions, and the feeling of disillusion for the future (Arsovska 2015; Behan 1996; Carvalho and Soares 2016). As a result, OC offenders are significantly younger than general offenders in terms of age at first sanction (Kirby et al. 2016). The perspective of profits, instead, primarily attracts adults. Social connections and skills acquired with age facilitate their engagement in OC (Blokland et al. 2017; Kleemans and de Poot 2008). These two age-groups emerge across the different types of OGCs, with only few exceptions – outlaw motorcycle gangs specifically restrict membership to adults (Blokland et al. 2017).
Gender

The male population prevails across all the different types of OCGs (Brotherton and Barrios 2004; Hixon 2010; Kirby et al. 2016; Salinas et al. 2011; Unlu and Ekici 2012; Varese 2011a, 2013). The rate of OC male offenders is even higher compared with the population of general offenders (Salinas et al. 2011). The participation of women occurs at lower rates mainly through family or emotional ties, especially within DTOs (Brotherton and Barrios 2004; Requena et al. 2014; Salinas and Regadera 2016; Van San and Sikkens 2017; Varese 2011a). Their role varies across types of OCGs, and may change from home country to new territories.

Ethnicity

Criminological theories of strain, social disorganization, and subcultures developed over the last century examined ethnic differences in offending and crime patterns.\(^9\) In line with these theories, ethnic marginality has been found to be associated with involvement in OC. OCG membership help individuals to overcome the marginalization of their ethnic minority status (Arsovksa 2015; Gordon 2000). Marginalization can also help explaining the involvement in OC of illegal immigrants, whose irregular situation prevent them from finding a legitimate job (Salinas and Regadera 2016). Moreover, some ethnic groups are exposed to a higher risk of joining certain types of OCGs, e.g. black individuals in drug-trafficking gangs (Carvalho and Soares 2016).

Ethnic homogeneity proved to be relevant for most types of OCGs (Albini 1971; Ciconte 1992; Cressey 1969; Decker and Chapman 2008; Hess 1993; Lupo 1993; Varese 2011b, 2013; Wang 2013; Zhang and Chin 2002). Ethnic ties favor mutual trust relations, which play a major role in OCGs due to the illicit nature of the activities and the risk of detection and arrest for their members (Decker and Chapman 2008; Zhang and Chin 2002). Ethnic homogeneity not only has favoured the establishment of OCGs within their territory of origin (Arlacchi 1983; Behan 1996; Brancaccio 2017; Ciconte 1992; Gambetta 1993; Hess 1993), but has also contributed to their expansion across countries. With this regard, the literature reports on Italian mafias in the U.S. and Germany, Russian mafias in Italy, and maras (i.e. Central American street gangs) and Chinese triads in the U.S. (Albini 1971; Cressey 1969; Miguel Cruz 2010; Sciarraone and Storti 2014; Varese 2011a, 2013; Zhang and Chin 2002).

\(^9\)Criminological theory states that ethnic heterogeneity coupled with low economic status, residential mobility, and family disruption lead to increases in crime rates among neighborhoods (Shaw and McKay 1972). Subcultural theories explain crime involvement among lower-class individuals belonging to ethnic minorities as a result of frustration and/or reaction to the dominant culture (Cloward and Ohlin 1960; Cohen 1955; Miller 1958).
Educational Background

Low education levels are positively associated with individuals’ recruitment into OCGs (Albini 1971; Carvalho and Soares 2016; Ciconte 1992; Hess 1993; Sales 2015). In the case of mafias, illiteracy does not prevent members from having a long criminal career, becoming bosses and reaching wealth and status (Hess 1993). However, mafia members’ educational levels may have increased over time (Arlacchi 1983). While in the past mafia members were mainly illiterate and lower class individuals, since the 1960s mafiosi include literate middle class individuals (Arlacchi 1983). Nevertheless, the growth in mafia members’ education levels may simply reflect the general increased education in the overall population during the same period (Roser and Ortiz-Ospina 2017).

Employment

The lack of legitimate occupations and unemployment facilitates the involvement into OCGs (Brancaccio 2017; Ciconte 1992; Gambetta 1993; Jhi and Gerber 2015; Sales 2015; Wang 2013). A study has found the probability of becoming a gang member almost three times lower for individuals with employment experience than for those who have always been unemployed (Jhi and Gerber 2015). However, some strategic occupations may also offer opportunities for criminal behaviour (Ciconte 1992; Kleemans and de Poot 2008; Kleemans and Van de Bunt 2008; Salinas et al. 2011; Van Koppen 2013). These occupations share some characteristics, as a certain degree of independence to employees, the social exchange, and the relation with mobility and logistics. Workers of the transport industry, especially truck drivers, owners of car companies, and car dealers are attractive for OCGs (Kleemans and de Poot 2008; Kleemans and Van de Bunt 2008; Van Koppen 2013). In these cases, licit employments can conceal illicit activities, and illicit activities in turn can complement the legal salaries (Salinas et al. 2011).

Economic Conditions

Growing in poor city suburbs and socio-economically deprived environments facilitates recruitment into OCGs (Brotherton and Barrios 2004; Carvalho and Soares 2016; Ciconte 1992; Decker and Chapman 2008; Gordon 2000; Jhi and Gerber 2015; Sergi 2016; Van San and Sikkens 2017). Individuals from low socio-economic status may drop out of school to contribute to the family expenses and to improve their living conditions. In such contexts, criminal activities may be attractive as a way to pursue material and emotional reward (Gordon 2000; Ostrosky et al. 2012). A career into Italian mafias, for example, fascinate many youngsters living in suburbs characterised by lack of money, goods, or means of support, contributing to their continuous recruitment (Albini 1971; Arsovskia 2015; Behan 1996; Brancaccio 2017; Hess 1993; Sales 2015). Nevertheless, individuals from higher socio-
economic conditions can also join OCGs, mainly attracted by high monetary gain (Gordon 2000; Unlu and Ekici 2012; Van Koppen 2013; Wang 2013). This could be a factor facilitating recruitment of individuals facing debts, specific needs (e.g. drug addiction), or difficult life events (e.g. sudden illness) (Van Koppen 2013).

Social Ties

Social relations facilitate the involvement into criminal activities among the different types of OCGs (McIlwain 1999). Social relations may be developed in disparate spheres of everyday life (e.g. leisure and work ties), and later become a bridge to OC (Decker and Chapman 2008; Gambetta 1993; Gordon 2000; Kleemans and de Poot 2008; Kleemans and Van de Bunt 2008; Morselli 2003; Paoli 2003; Sales 2015; Van Koppen 2013; Van San and Sikkens 2017; Varese 2001, 2011b, 2013; Wang 2013). This mechanism has been defined as “social opportunity structure” (Kleemans and de Poot 2008). Individuals may join criminal settings because of their experience and expert knowledge, and/or their ability to connect criminal members with third parties, other criminal groups or representatives of the legal businesses (Morselli 2003; Varese 2011a). Work, social, and criminal ties are therefore interwoven. Leisure activities and sidelines often act as a bridge between representatives of the legal and criminal settings (Kleemans and de Poot 2008; Kleemans and Van de Bunt 2008; Van Koppen 2013). The social opportunity structure may explain why some individuals get involved into OCGs during adulthood: their relational network enables their expertise to match a specific criminal opportunity. Moreover, individuals’ attitude towards criminal opportunities may loosen due to improvise life events (e.g., bankruptcy) (Kleemans and de Poot 2008; Van Koppen 2013).

Kinship and blood ties are facilitators to access OCGs (Arlacchi 1983; Arsovska 2015; Behan 1996; Brancaccio 2017; Ciconte 1992; Cresse 1969; Decker and Chapman 2008; Gambetta 1993; Kissner and Pyrooz 2009; Lo 2010; Requena et al. 2014; Salinas et al. 2011; Salinas and Regadera 2016; Sciarrone 2014; Sergi 2016; Van Koppen 2013; Varese 2001, 2006, 2011a). The key role of kinship and blood ties in the recruitment into OCGs results from the need of cultural transmission and gradual learning of criminal culture and knowledge to new members (Gordon 2000; Sergi 2016). Family members and close friends are easier to trust in the criminal environment lacking third parties to regulate businesses and disputes (Van Koppen 2013). Being part of a criminal family may per se facilitate one’s recruitment into OCGs, especially in the mafias (Albini 1971; Arlacchi 1983; Ciconte 1992; Gambetta 1993; Hess 1993; Lupo 1993; Paoli 2003; Sciarrone 2014; Sergi 2016). In the mafias, the concept of family goes beyond proper kinship and blood ties. Individuals can assume a permanent new identity as “men of honor” in OCGs through the acceptance of a “status contract”, through their affiliation ceremony (which in some Italian mafias is called “baptism”). During this ceremony, several rituals help creating brotherhood ties among members, thus also enabling “contract of fraternization”. This contract extends the family bonds of loyalty and obligation,
providing members with the mutual support and trust necessary to pursue groups’ aims (Paoli 2003). Family ties play a significant role also for gangs, in which parental gang membership has been proven to be a significant predictor of individuals’ affiliation (Kissner and Pyrooz 2009).

**Group Identity**

The sense of belonging and social identity associated with the membership into a criminal group facilitates the recruitment into OCGs (Arsovksa 2015; Brotherton and Barrios 2004; Densley 2012; García 2006; Hixon 2010; May 2009). Co-offending and social interactions within the OCGs reinforce the sense of loyalty and social cohesion among members (Densley 2012). These processes enhance members’ sense of group identity (García 2006). Moreover, individuals joining OCGs in many cases belong to subcultures characterized by values of honor and loyalty, and are often recruited through ritualized procedures of affiliation (Albini 1971; Arlacchi 1983; Brotherton and Barrios 2004; Cressey 1969; Gambetta 1993; Hess 1993; Hixon 2010; Lo 2010; Paoli 2003; Sciarrone 2014; Sergi 2016; Zhang and Chin 2002). This is particularly relevant in the case of mafias, in which the initiation ceremonies play a key role (Albini 1971; Gambetta 1993; Hess 1993; Hixon 2010; Paoli 2003; Sergi 2016). To be recruited into the mafias, individuals must have psychic attitudes and a moral code typical of “men of honor”, who are respected and capable of violent revenge if necessary (Gambetta 1993; Hess 1993). During the initiation ceremonies, the new members have to take an oath of “providing for the family of a member in the event of his death or incarceration” (Albini 1971, pp. 113–114; see also Paoli 2003; Sergi 2016).

**Psychological Factors**

Some studies associate substance use disorder, childhood conduct disorder, and/or abnormal psychopathological traits to an increase of individuals’ risk of involvement in OC activities (Hixon 2010; Kissner and Pyrooz 2009; May 2009; Ostrosky et al. 2012; Schimmenti et al. 2014; Sergi 2016). Individuals recruited into OCGs usually have an extensive history of negative and arrested development during adolescence, leading to antisocial personality disorders during their adulthood (Hixon 2010).

A medium–high psychopathy level is common among most OC members, in line with their criminal skills. OC offenders lack empathy and inhibition, they have marked cruelty and callousness, affective impairments, and an average antisocial lifestyle. Such profiles are compatible with violent and risky activities, and committing physical assaults for immediate gratification, regardless of potential prosecution (Ostrosky et al. 2012). Another study confirmed the psychopathy and antisocial traits characterizing mafias’ members, also underlying their infantile and dependent personality traits, demonstrated by their obedience to the willingness of their orga-
nizations. Mafia members differ from other offenders in that they do not suffer from substance use disorder. Substance use may indeed impair the reliability of mafia members, who always have to display the honorable principles of their organizations (Schimmenti et al. 2014).

Nevertheless, criminals involved in “high-profile” activities, like money-laundering, present different characteristics. These individuals maintain quite a normal lifestyle, but they lack affective bonds, they have increased arrogance, callousness, and a strong desire for recognition and for a certain economic status. These features allow them to achieve their goals through unethical and illicit non-violent activities (Ostrosky et al. 2012).

**Criminal Background and Skills**

Attitudes towards violent and risk-taking behaviors are essential to be part of OCGs. Violence is key to reinforce the criminal status of members, obtaining the respect and social acceptance of their group (Albini 1971; Behan 1996). Consequently, people with a criminal background are more likely to become involved in OCGs (Albini 1971; Arlacchi 1983; Behan 1996; Blokland et al. 2017; Brancaccio 2017; Gambetta 1993; Hess 1993; Kirby et al. 2016; Requena et al. 2014). In many cases OC members have a long criminal history (Albini 1971; Arsovska 2015; Blokland et al. 2017; Brancaccio 2017; Cressey 1969; Decker and Chapman 2008; Densley 2012; Gambetta 1993; Kirby et al. 2016; Kleemans and de Poot 2008; Lupo 1993; Morselli 2003; Sales 2015; Salinas et al. 2011; Van Koppen et al. 2010a, b; Varese 2011b). Compared to the population of general offenders, OC offenders show higher rates of offending seriousness, and serve longer time in prison (Van Koppen et al. 2010a). The key role of the cult of violence also explains the positive association between prison background and recruitment into OCGs, as individuals seek for protection and personal safety within the penitentiary (Behan 1996; Ciconte 1992).

The possession of criminal skills or special expertise is another relevant feature for recruitment into OCGs. The former refers to the ability of avoiding police detection and allows OCGs to test the loyalty and criminal potential of individuals (Densley 2012). The latter refers to high levels of knowledge, or the right set of skills, making individuals suited for certain types of illegal businesses. In some cases, the special expertise required can be very specific, as for translators, people capable of handling explosives, or people with a chemistry background supporting drug-related operations (Gambetta 1993). Such special expertise can derive from criminal or legitimate experience (Van Koppen 2013; Salinas and Regadera 2016). In both cases, having a special expertise explains the involvement in OCGs during adulthood (Kleemans and de Poot 2008). Individuals with specific criminal expertise acquired through their criminal career may be recruited in prison (Behan 1996; Ciconte 1992) or outside (Arlacchi 1983; Cressey 1969; Gambetta 1993; Lo 2010; Salinas et al. 2011; Salinas and Regadera 2016; Sergi 2016; Van Koppen 2013).
Silence/Omertà

Individuals joining OCGs cannot break the code of silence, also known as omertà, required to commit OC activities (Albini 1971; Ciconte 1992; Cressey 1969; Gambetta 1993; Hess 1993; Lo 2010; Lupo 1993; Paoli 2003; Requena et al. 2014). For mafia members, handling secrecy also implies the impossibility to have contacts or any relationships with legal authorities. Albini (1971, pp. 107–108) underlines that “omertà is not unique to any one organization or society. Omertà is a behavior and attitude [and] […] it represents suspicion and resentment of government and law”.

Discussion

This systematic review includes 47 studies published over a span of nearly fifty years (1969–2017). Results show that the majority of the studies employs qualitative methods and cover the entire period, though quantitative research has recently increased. Compared to the previous decade (i.e. 2000–2009), literature on recruitment into OCGs has risen by almost 108%, with 27 included studies published since 2010. The growth has encompassed all type of studies, but the most notable increase has involved the use of quantitative methods (from 2 studies during 2000–2009 to 10 since 2010).

As for the geographic scope, the recent rising trend has mostly occurred in Europe. Of the total number of included studies, almost 40% (n = 18) investigate recruitment into OCGs in the European context and were published on or after 2010. Italy is the most represented country, though academic studies on the Netherlands and Spain have also emerged over the last two decades. After Europe, the most represented continent is North America, followed by a small number of comparative research studies (e.g. OC in the U.S. and China).

Results therefore show that literature focuses on Europe rather than the Americas, Russia, and Far East, other geographic areas also affected by the presence of OCGs. This finding suggests that the interest in OC-related activities is prevalent in some countries, while in others there seems to be less attention despite a long tradition in criminological research (e.g. the U.S.). Nonetheless, the advancement of quantitative research in the study of OC may change this scenario, fostering the interest of more scholars. Further quantitative studies in under-represented countries would contribute to enhance the knowledge on risk factors for involvement into OCGs.

Research findings show that factors associated with recruitment into OCGs are highly interrelated. Social and economic factors play a major role while psychological factors are found to be less important. This finding is in line with the literature on the social opportunity structure (Kleemans and De Poot 2008) as the underlying mechanism through which recruitment into OCGs occurs. Opportunities to enter OCGs depend on individuals’ personal background and skills, as well as on the social relations they develop in different settings of their lives. Previous studies indeed consistently highlight
the importance of factors as violent attitudes and behavior, criminal background, low economic status, and social relations in facilitating individuals’ involvement into OC. Members of OCGs usually have a significant criminal history and/or a prison background resulting from their proneness to violent and risk-taking behavior. This is particularly true for people living in poor and socially disorganized areas. The lack of access to legitimate means to attain commonly accepted goals may make them more prone to seek illegal alternatives to overcome difficulties. In this perspective emerges the social embeddedness of OC. Recruitment in OCGs mainly revolves on social proximity and interaction with members of criminal organizations. Although relations developed in work settings and everyday activities are important in recruiting new members, kinship and blood ties with OC offenders allow for increased mutual trust and loyalty.

Though social, psychological, and economic factors are highly interrelated concerning criminal recruitment, some are equally present across various types of OCGs, while others are particularly relevant for some of them. Kinship and blood ties are particularly important in recruiting mafia members. Furthermore, these groups succeed in extending the family concept beyond proper kinship and blood ties. Through the initiation ritual, individuals accept the “contract of fraternization” enhancing brotherhood ties among members, and increasing the cohesion of the criminal organizations and reinforces group identity. This latter aspect is a key factor also for gang membership. Rituals and a common culture provide individuals with a sense of belonging that favors their involvement in gangs. Conversely, individuals usually join DTOs mainly driven by monetary returns. Finally, individuals get involved in other criminal organizations during adulthood as they develop specialized expertise and social ties with criminals only later in life.

The identification of a broad variety of factors on recruitment into OCGs benefits from studies adopting different methodological approaches. Included studies are consistent in pointing to the same factors, regardless of their quantitative, qualitative, or mixed-methods approach. Nonetheless, each approach better suits the analysis of specific factors. For instance, while quantitative studies usually report on age, gender, and economic conditions, qualitative research often deals with factors that can hardly be quantified, as group identity and silence/omertà (Fig. 2). Relevant grey literature further corroborates the consistency of the results. Selected reports identify the same factors emerging from the review on empirical studies on the Italian mafias operating in their territory of origin, as well as on foreign mafias operating in other geographic areas. However, the inclusion of studies adopting different methodological approaches (Fig. 1), as well as the heterogeneity of the concept of OC, may limit the generalizability of research results beyond the OCG and the geographic area under analysis in each study. On the one hand, the main limitations of included qualitative studies relate to their research designs. Many of them rely on case studies, thus lacking external validity. Alternatively, they are monographies focusing on the mafias in their territories of origin. On the other hand, the main limitation of quantitative and mixed-methods studies lies in their data sources. They mostly rely on investigative and judicial data, thus referring to non-random samples that suffer from the “dark number” issue (i.e. the discrepancy between the number of real events and the reported offences and offenders). Notwithstanding the methodological approach, the limited generalizabil-
ity of the results may be due to the heterogeneity of the concept of OC. Given the lack of a unique definition of OC, the literature in this field of study encompasses varying regions and criminal organizations. The adoption of a broad definition of OC (i.e. by identifying four types of OCGs) allows providing a general overview of the factors relating to recruitment into OC, although results should be interpreted with caution when considering other types of OCGs. Nonetheless, the results of this systematic review provide a systematized and comprehensive understanding on the factors facilitating pathways into OC, while also pointing out relatively under-examined factors for future studies. Finally, research findings contribute to consolidate the knowledge in this field and may serve to inform the policy-making process aimed at preventing involvement into OC.

Conclusions

This study is the first systematic review shedding light on the most commonly reported social, psychological, and economic factors associated with involvement into OC. The extensive and rigorous search – performed in multiple languages and several databases – has allowed identifying and assessing potentially eligible records while also reducing the risk of bias in the inclusion of relevant literature.

The systematic review includes 47 studies, of which the majority are qualitative (57%), followed by quantitative studies (26%) and mixed-methods ones (17%). The literature includes different types of OCGs – among all Italian mafias (40% of the studies) and other criminal organizations (30%) – with official statistics, investigative and judicial files as the main source of data.

Research findings highlight that social and economic factors play a major role for involvement into OC. Individuals’ recruitment into OCGs is influenced, among all, by low socio-economic status, attraction for a strong group identity, and social ties. Social connections and work-related ties drive the recruitment of late-onset offenders, who get involved into OC because of criminal opportunities, which may arise at later stages in life. Financial gains are also found to be important, especially for individuals who join DTOs. An existing criminal background or possession special expertise constitute a positive driver for involvement into OC, although some OCGs as the mafias require peculiar skills as the ability of handling secrecy and enforce the code of silence.

As for limitations, the research design adopted by qualitative and mixed-methods approaches might mitigate generalizability of findings to other OCGs or other geographic areas. Nonetheless, this study provides a more comprehensive understanding on factors associated with involvement in OC and contributes to the consolidation of such knowledge also providing insights on the empirical evidence by geographic areas and types of literature included (i.e. types of methods and data sources). In addition, the heterogeneity of the concept of OC has made it difficult to perform a meta-analysis to properly combine and analyze the results from multiple quantitative studies. Despite these limitations, this systematic review is the first study to synthesize the empirical evidence on factors related to recruitment into OCGs.
Future studies may expand and improve this review under some aspects. One of the main implications for future research regards the methodological approach in the study of recruitment into OC. If the recently emerged quantitative approach proliferates, results of future studies will have an increased external validity. Quantitative research will also allow the development and testing of hypotheses and therefore the empirical test of theoretical contributions in the field of OC. In addition, further quantitative research will allow further enhancing the empirical evidence on risk factors for involvement into OC and comparing such dynamics with general or less serious crimes. These improvements could be feasible provided the exchange of data and information among law enforcement agencies, scholars, and policymakers. Increasing publication of quantitative studies would also facilitate the comparison of results across different types of OCGs and regions. Future studies may adopt different scopes, focusing on different types of OCGs or on OCGs active in specific geographic areas that are currently underrepresented (e.g. Asian or African countries). Overall, scholars should focus on factors relating to recruitment into OCGs with more detail and more comprehensively. They may therefore focus on both those factors emerging as crucial (e.g. individuals’ criminal background and social relations) and others that are currently underreported (e.g. psychological factors as personality traits).

These improvements would positively influence future OC research as well as practitioners and policy-makers’ work. Extensive and systematic knowledge of the factors relating to recruitment into OCGs would allow institutions to tackle this continuous process. The analysis identification of individual red flags combined with the assessment of risky social environments would facilitate the design of tailored policies aimed at preventing recruitment into OCGs. The limited generalizability of the research findings prevents the identification of specific recommendations for crime prevention policies. Nonetheless, the results of this systematic review can inform future policy-making processes enhanced by further empirical research on OC and involvement into OCGs.

References

Studies Included in the Systematic Review


Other References


Socio-Economic Inequalities and Organized Crime: An Empirical Analysis

Michele Battisti, Giovanni Bernardo, Antri Konstantinidi, Andros Kourtellos, and Andrea Mario Lavezzi

Introduction

In this chapter we contribute to the recent literature (e.g., Istat 2010; Acciari et al. 2017; Güell et al. 2017) that provides evidence that inequality is high and social mobility is low in the Italian regions and provinces where organized crime is widespread such as those of Southern Italy. We complement this line of work in two respects. First, using a novel panel dataset at the regional level for the period 1985–2014 we investigate the relationship between inequality and organized crime at the regional level, exploiting both time and cross-sectional variation. Second, we assess the role of social mobility in organized crime.

Our main hypothesis is that both inequality and intergenerational persistence lead to organized crime. There exist various mechanisms for why income inequality matters. In particular, direct channels may be at work, for example if poor individuals find organized crime attractive for lack of remunerative alternatives in the labor market. Alternatively, rich individuals, for example members of the economic and political élite, may demand organized crime “services” to gain or preserve their

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1 Some previous work has studied the relationship between inequality and corruption (e.g., Jong-Sung and Khagram 2005), violent crime (e.g. Fajnzylber et al. 2002) and civil conflict (e.g., Macours 2010).
socio-economic standing. Franchetti (1877) initially pointed out this behavior in his thorough enquiry on Sicily at the time of reunification of Italy, as he noted that the Sicilian upper class benefited from the protection services by the early mafiosi. Recent evidence supporting this claim is found for example in Gambetta and Reuter (1995), describing how entrepreneurs can gain monopolistic power by forming cartels enforced by criminal organizations in the adjudication of public contracts, and by De Feo and De Luca (2017), who provide evidence on the support that Mafia can give to local politicians in exchange for economic benefits. In addition, indirect channels can also be at work. This occurs if the expected returns from organized crime, including possible punishment and opportunity costs, are higher than the expected return of the individuals’ legal alternatives. Our conjecture is that there might be more gains from involvement in organized crime in the presence of inequality as the latter is likely to lead to corruption and erosion of the rule of law (Jong-Sung and Khagram 2005; Sunde et al. 2008).

In addition, we expect that low socio-economic mobility favors organized crime development. This fact, as noted, is suggested by the empirical analyses of Acciari et al. (2017), and Guell et al. (2017), although in these articles this issue is not considered. Our hypothesis is motivated by the ideas of memberships theory of inequality put forward by Durlauf (1996, 1999, 2006). Cross-sectional inequality leads to segregation that generates gaps in the life-time outcomes of children that in turn generate intergenerational immobility. Durlauf shows how the co-existence of social interactions and residential segregation can lead to intergenerational persistence. The idea is that in the presence of complementarity, parents (e.g., role models) will make choices about the locations where their children grow up to affect their social environment. This leads to neighborhood stratification by income and incentives for segregation. Segregation in turn creates great gaps in the capabilities and outcomes of children as they grow up to become adults. The higher the degree of segregation, the larger are the gaps in human capital between children from rich and poor neighborhoods. This creates the Great Gatsby Curve (Durlauf and Seshadri 2018). More precisely, assuming local public finance of education, rich families will sort themselves into rich and low-crime neighborhoods with high-quality schools and services. Poor families will sort themselves into high-crime neighborhoods with poor schools and services. This implies that a child who grows up in a disadvantaged neighborhood will receive poor education and it more likely to be exposed to a host of negative social interaction effects such as the lack of exemplar role models and negative peer effects that can influence educational and health outcomes or lead to delinquent behavior. In contrast, favorite outcomes are expected for the human capital and skill formation of the children raised in rich neighborhoods. These gaps are then transmitted from generation to generation giving rise to intergenerational persistence.

Our hypothesis is that in such neighborhoods Mafiosi can represent relevant role models, so that members of young generations have an incentive to fill the ranks of

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2See also Gambetta (1993) for an analysis of the Sicilian Mafia as a provider of private protection and Lavezzi (2014) for a discussion of the concept of “demand for Mafia”.
criminal organizations. On the other hand, rich families tend to cluster to exploit positive spillovers from other rich families. In connection with the argument we made to motivate our hypothesis on the relationship between inequality and development of organized crime, we argue that in dynamic setting, offspring of rich families can have an incentive to exploit the same channels that members of previous generations had to increase income and accumulate wealth, including the utilization of the services provided by organized crime. Although our interest is on the causal link going from social mobility to organized crime development, important feedback mechanisms can be at work, so that at this stage we cannot make strong claims of causality and just look for robust correlations between measures of socio-economic mobility and of organized crime.3

Indeed, the few existing works investigating the relationship between organized crime and social mobility study the causal link going from the former to the latter. Coniglio et al. (2010) and Caglayan et al. (2017) in particular show that the presence of organized crime within the territory interferes with human capital accumulation. In particular, Coniglio et al. (2010) argue that the presence of organized crime in Southern Italy, especially in the region of Calabria, hinders human capital accumulation by reducing incentives to invest in education and by increasing migration outflows. Caglayan et al. (2017) instead provides empirical evidence of less accumulation of human capital in provinces of Northern Italy where the presence of organized crime is widespread.4

In our empirical analysis we construct different measures of organized crime, which are based on Calderoni (2011) and on dynamic factor methods (Moench et al. 2013; Bańbura and Modugno 2014). Furthermore, we use different inequality indices. Our main finding is that higher inequality leads to higher organized crime development. The results are robust for different organized crime measures and inequality indices. For all measures the ratio of 90th quintile over the 10th in the distribution is a strong predictor of organized crime, even if we control for other covariates that capture economic development, education, etc. We also find that consumption inequality performs better that income inequality as the relevant inequality measure. Finally, we conduct a provincial level analysis to study the effect of socio-economic mobility on organized crime, using the Calderoni-based indices. We consider three alternative measures of social mobility. We find that lower socio-economic mobility displays a robust association with organized crime development.

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3 Work is in progress to analyze this issue in the city of Palermo.

4 Other works investigate the effect of other types of crime on social mobility. For example, Savolainen et al. (2014), using birth cohort data from Finland, examine the relationship between intergenerational educational mobility and criminal activity noting that rates of criminal offending is strongly related to family background. Differently, Sharkey and Torrats-Espinosa (2017), using longitudinal data on US, find evidence that a decline on violent crime in a county increases the upward economic mobility in adults who had experienced this drop during the late adolescence. Moreover, they show that a decline in the violent crime rate reduces the high school dropouts at the county level.
This chapter is organized as follows. Section “Data” contains the description of the dataset; Section “Methodology” describes the methodology employed for the empirical analysis; Section “Results” presents the results; Section “Discussion” contains a discussion of our results; Section “Conclusions” contains some concluding remarks.

Data

Our dataset on organized crime and inequality takes the form of an unbalanced 5-year period panel for 20 Italian regions for the period 1985–2014. A detailed description of the data and our sources is in Table 1. While we construct the organized crime variables at the annual frequency we opt to use 5-period averages to reduce measurement error bias and ease the problem of missing observations in several explanatory variables.

Data on income inequality are obtained from the Survey on Household Income and Wealth (SHIW) provided by the Bank of Italy, which comprises about 8000 households (20,000 individuals) per wave. This survey includes information on personal income, household consumption and wealth, education and occupation. Data on socio-economic mobility are from Acciari et al. (2017), and come from Italian tax data at provincial level.

Measures of Organized Crime

To measure organized crime, we follow the current literature and utilize data on crimes committed by members of criminal organizations. Data on crimes come from Istat and the SDI database, managed by the Italian Ministry of Interiors. Our analysis distinguishes between two types of crime measures. Type I includes direct measures, i.e. crimes that unambiguously are related to organized crime (2 crimes): Homicide by Mafia and Mafia Type Association. Type II includes indirect measures, i.e. crimes that are potentially associated to organized crime (14 crimes): Criminal Association, Bribery, Corruption for an Act Against Official Duties, Drugs, Extortion, Money Laundering, Prostitution, Smuggling, Threats, Usury, Corruption in Public Acts, Instigation to Corrupt, Judicial Corruption, Kidnapping for Extortion Purposes.

Our organized crime measures are based on the joint consideration of type I and II crimes. We choose to measure organized crime in this way as the relevance of crimes of Type II is remarked in several reports on the activities of Italian mafias.

5 We are grateful to Magg. Domenico Martinelli and to Claudia Di Persio for invaluable help, and to the Department on “Analisi Criminale della Direzione Centrale della Polizia Criminale” at the Italian Ministry of Interiors for releasing the data.

6 In our empirical analysis crime numbers are normalized by population.
Table 1 Variables’ definition and sources

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute Upward mobility – Q1Q5</td>
<td>Acciari et al. (2017)</td>
</tr>
<tr>
<td>Absolute Upward mobility – Expected rank</td>
<td>Acciari et al. (2017)</td>
</tr>
<tr>
<td>Bribery</td>
<td>Concussione – Offences reported by the police to the prosecution service (2003–2015) – SDI (acronym for System of Investigation)</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>Cambridge Econometrics (€2005 m)</td>
</tr>
<tr>
<td>Corruption for an act against Official Duties</td>
<td>Corruzione per un atto contrario ai doveri d’ufficio – Offences reported by the police to the prosecution service (2003–2015) – SDI (acronym for System of Investigation)</td>
</tr>
<tr>
<td>Corruption in public acts</td>
<td>Corruzione per un atto d’ufficio – Offences reported by the police to the prosecution service (2003–2015) – SDI (acronym for System of Investigation)</td>
</tr>
<tr>
<td>Criminal_association</td>
<td>Associazione a delinquere – reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Drugs</td>
<td>Produzione, commercio, ecc. di stupefacenti – reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Economic Activity rate – total</td>
<td>Percentage of total population, both employed and unemployed, that constitutes the manpower supply of the labor market – Eurostat</td>
</tr>
<tr>
<td>Extortions</td>
<td>Estorsioni – reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Gross fixed capital formation</td>
<td>Cambridge Econometrics (€2005 m)</td>
</tr>
<tr>
<td>Homicide_Mafia</td>
<td>omicidi per motivi di mafia, camorra o ’ndrangheta – Murder committed by Mafia reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Homicide_terrorism</td>
<td>Oomicidi a scopo terroristico (art. 28- C.P.) – Murders committed by Terrorists reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Inequality – Net Income</td>
<td>Gini and other inequality measures for Net Income – Bank of Italy (SHIW)</td>
</tr>
<tr>
<td>Inequality – Total consumption</td>
<td>Gini and other inequality measures for total consumption – Bank of Italy (SHIW)</td>
</tr>
<tr>
<td>Inequality – Total consumption</td>
<td>Gini index for total consumption (provincial level) – ISTAT – Household budget survey – Processing carried out at the Laboratory for Analysis of ELementary data (Adele Palermo – ISTAT)</td>
</tr>
<tr>
<td>Instigation to corrupt (Istigazione alla corruzione)</td>
<td>Instigation to corrupt – Offences reported by the police to the prosecution service (2003–2015) – SDI (acronym for System of Investigation)</td>
</tr>
<tr>
<td>Kidnappings for extortion purpose</td>
<td>Sequestro di persona a scopo estorsivo – kidnappings for extortion purpose reported by the police forces to the judicial authority (1985–2003) – ISTAT</td>
</tr>
</tbody>
</table>

(continued)
Table 1 (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kidnappings for terrorist purposes</td>
<td>Sequestro di persona a scopo terroristicо – kidnappings for terrorist purposes reported by the police forces to the judicial authority (1985–2003) – ISTAT</td>
</tr>
<tr>
<td>Long-term unemployment rate</td>
<td>Eurostat</td>
</tr>
<tr>
<td>Mafia type Association</td>
<td>Associazione a delinquere di stampo mafioso – Mafia criminal association reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Money laundering</td>
<td>Riciclaggio di denaro – Money laundering – Offences reported by the police to the prosecution service (2003–2015) – SDI (acronym for System of Investigation)</td>
</tr>
<tr>
<td>Participation rate in education and training</td>
<td>Participation rate in education and training (last 4 weeks). Population aged 25–64 – Eurostat</td>
</tr>
<tr>
<td>Prostitution</td>
<td>Prostituzione – Prostitution reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Relative mobility</td>
<td>Acciari et al. (2017)</td>
</tr>
<tr>
<td>Robberies</td>
<td>Rapina – Robberies reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Secondary Education level</td>
<td>Percentage of people aged 25–64 with upper secondary and post-secondary non-tertiary education attainment (levels 3 and 4) – Eurostat</td>
</tr>
<tr>
<td>Smuggling</td>
<td>Contrabbando – Smuggling reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Theft</td>
<td>Furto – Theft reported by the police forces to the judicial authority (1985–2015) – ISTAT</td>
</tr>
<tr>
<td>Threats</td>
<td>Minacce – Threats – Offences reported by the police to the prosecution service (2003–2015) – SDI (acronym for System of Investigation)</td>
</tr>
<tr>
<td>Total hours worked</td>
<td>Cambridge Econometrics (millions)</td>
</tr>
<tr>
<td>Usury</td>
<td>Usura – Usury – Offences reported by the police to the prosecution service (2003–2015) – SDI (acronym for System of Investigation)</td>
</tr>
</tbody>
</table>

(see, e.g. Dia 2016), as well as in the literature (see e.g. Riccardi et al. 2016, and Fioroni et al. 2017). This approach distinguishes us from, e.g., Calderoni (2011) who focuses on type I crimes only. In addition, from a statistical point of view, we see organized crime as a latent variable, measured with error. In this perspective, the higher the number of crimes we consider to measure organized crime, the lower the measurement error.

Our organized crime variables are based on two alternative approaches using 16 crime variables. The first one is based on Calderoni (2011) and the second approach employs novel dynamic factor methods proposed by Moench et al. (2013) and Banbura and Modugno (2014).

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7 Crime data in Calderoni (2011) are integrated by data on other direct measures of Mafia activities: the number of city councils dissolved for Mafia infiltration, and a measure of assets confiscated to Mafia clans. See the same article for details on other methods to measure organized crime found in the literature.
Following Calderoni (2011), we employ two alternative procedures to calculate the Mafia Index. In the first one, we first normalize each variable to take values between 0 and 100 with 100 to denote the highest value of Mafia presence. Then, we compute the Calderoni Mean Index as the average score of all variables. One problem with the average score is that it may overestimate the presence of the mafia in the Southern regions and underestimate it in the other regions. This is because organized crime is prevalent in the areas of southern Italy. To overcome this problem we also construct an index based on region’s rank. For each variable, we rank all the Italian regions in decreasing order. Then we attribute the score of 100 to the region with the highest rank and proportionally lower scores to the other provinces, according to their rank. Then, we compute the Calderoni Rank Index as the average score of all variables (see Table 2 for summary statistics).

In addition, we employ the dynamic factor model method to extract a latent factor for organized crime at the regional level. This methodology has not been applied to such a purpose before. Let \( x_t = (x_{1t}, x_{2t}, \ldots, x_{nt})' \), \( t = 1, \ldots, T \) denote a stationary \( n \)-dimensional vector of crime series standardized to mean 0 and unit variance. We assume that the factor model takes the following form:

\[
\begin{align*}
    x_t &= \Lambda f_t + e_t \\
    f_t &= A f_{t-1} + \eta_t
\end{align*}
\]

where \( f_t \) is a \( r \times 1 \) vector of latent common factors of organized crime and \( e_t = (e_{1t}, e_{2t}, \ldots, e_{nt})' \), is the idiosyncratic component, uncorrelated with \( f_t \) at all leads and lags.8 The errors \( \eta_t \) are assumed to be innovations to the factor. The common component is given by the \( n \times r \) matrix \( \Lambda \), which contains factor loadings.

Following Banbura and Modugno (2014) we estimate the dynamic factor model using a modified Expectation Maximisation (EM) algorithm. The idea of the algorithm is to write the likelihood as if the data were complete and to iterate between two steps: in the Expectation step the missing data are filled in the likelihood, while in the Maximisation step this expectation is re-optimized. This modification is important in our analysis as it allows us to consider a larger number of time-series that organized crime regardless of whether they have missing observations or not.

In addition to the latent factor at the regional level we extract factors at the macroarea (Centre, North and South) and Italy level for descriptive purposes. In doing so, we employ two complementary factor analyses. First, we apply the aforementioned methodology separately at different levels of aggregation. Figures 1 and 2 provide

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Table 2  Summary statistics of 5-year averages of crime indices

<table>
<thead>
<tr>
<th></th>
<th>Obs.</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>sd</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calderoni Mean Index (Type I,II)</td>
<td>120</td>
<td>30,378</td>
<td>9150</td>
<td>61,367</td>
<td>11,533</td>
<td>21,623</td>
<td>28,965</td>
<td>37,839</td>
</tr>
<tr>
<td>Calderoni Rank Index (Type I,II)</td>
<td>120</td>
<td>52,500</td>
<td>14,813</td>
<td>79,750</td>
<td>13,018</td>
<td>44,125</td>
<td>54,063</td>
<td>60,594</td>
</tr>
</tbody>
</table>

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8The errors were not allowed to be serially correlated, but this assumption can be relaxed later.
the t-plots of the factors for results for Italy-wide and the macro-area factors, respectively. It can be observed that there are some large spikes at the beginning of the period, indicating a higher intensity of the phenomenon, while fluctuations are much smaller in the subsequent years.

Table 3 presents the estimates the loadings of the factors and Table 4 the square loadings (as % of total) to illustrate the relative importance of the different crimes. The factor loadings (estimated as stationary, non time-varying, values) can be interpreted as weights telling how much the factor intensity depends (loads) on each crime over the period of interest.

Table 3 presents the estimates the loadings of the factors and Table 4 the square loadings (as % of total) to illustrate the relative importance of the different crimes. The factor loadings (estimated as stationary, non time-varying, values) can be interpreted as weights telling how much the factor intensity depends (loads) on each crime over the period of interest.

Table 4 suggests that some of the indirect measures of organized crime may have a high capacity to capture the phenomenon, and that the effect is different across the different Italian macro regions. For example, different corruption crimes stand out (see, e.g. Fioroni et al. 2017, on corruption and organized crime), as well as money laundering in the South (see Barone and Masiandaro 2011, for an analysis of organized crime and money laundering).

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The factor loadings (estimated as stationary, non time-varying, values) can be interpreted as weights telling how much the factor intensity depends (loads) on each crime over the period of interest.
Table 3  Factor loadings computed following Banbura and Modugno (2014)

<table>
<thead>
<tr>
<th></th>
<th>Italy</th>
<th>North</th>
<th>Center</th>
<th>South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bribery</td>
<td>–3.966</td>
<td>4.294</td>
<td>–31.185</td>
<td>–0.257</td>
</tr>
<tr>
<td>Corruption for an action against official duties</td>
<td>–0.007</td>
<td>–3.089</td>
<td>–7.915</td>
<td>–4.077</td>
</tr>
<tr>
<td>Criminal association</td>
<td>0.765</td>
<td>–0.406</td>
<td>–3.635</td>
<td>0.510</td>
</tr>
<tr>
<td>Drugs</td>
<td>0.032</td>
<td>–0.007</td>
<td>–0.942</td>
<td>0.019</td>
</tr>
<tr>
<td>Extortions</td>
<td>0.242</td>
<td>–0.098</td>
<td>–0.516</td>
<td>0.219</td>
</tr>
<tr>
<td>Homicide by Mafia</td>
<td>–0.168</td>
<td>–0.146</td>
<td>–0.732</td>
<td>–0.163</td>
</tr>
<tr>
<td>Mafia type Association</td>
<td>–1.004</td>
<td>0.741</td>
<td>5.060</td>
<td>–0.737</td>
</tr>
<tr>
<td>Money laundering</td>
<td>–2.453</td>
<td>–0.377</td>
<td>28.086</td>
<td>–6.729</td>
</tr>
<tr>
<td>Prostitution</td>
<td>–0.081</td>
<td>0.009</td>
<td>0.438</td>
<td>–0.086</td>
</tr>
<tr>
<td>Smuggling</td>
<td>–0.012</td>
<td>0.013</td>
<td>–0.088</td>
<td>–0.006</td>
</tr>
<tr>
<td>Threats</td>
<td>–2.535</td>
<td>2.068</td>
<td>–9.125</td>
<td>–1.418</td>
</tr>
<tr>
<td>Usury</td>
<td>0.687</td>
<td>0.503</td>
<td>–21.516</td>
<td>–0.850</td>
</tr>
<tr>
<td>Corruption in public acts</td>
<td>2.102</td>
<td>–1.473</td>
<td>–55.867</td>
<td>1.696</td>
</tr>
<tr>
<td>Instigation to corrupt</td>
<td>–0.397</td>
<td>–2.336</td>
<td>19.441</td>
<td>–1.327</td>
</tr>
<tr>
<td>Kidnapping for extortion purpose</td>
<td>–0.225</td>
<td>0.068</td>
<td>–0.757</td>
<td>–0.220</td>
</tr>
</tbody>
</table>

Table 4  Square of factor loadings computed following Banbura and Modugno (2014), as percentage of the total

<table>
<thead>
<tr>
<th></th>
<th>Italy (%)</th>
<th>North (%)</th>
<th>Centro (%)</th>
<th>South (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bribery</td>
<td>12.71</td>
<td>25.49</td>
<td>14.73</td>
<td>0.09</td>
</tr>
<tr>
<td>Corruption for an action against official duties</td>
<td>0.00</td>
<td>13.20</td>
<td>0.95</td>
<td>23.20</td>
</tr>
<tr>
<td>Criminal association</td>
<td>0.47</td>
<td>0.23</td>
<td>0.20</td>
<td>0.36</td>
</tr>
<tr>
<td>Drugs</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Extortions</td>
<td>0.05</td>
<td>0.01</td>
<td>0.00</td>
<td>0.07</td>
</tr>
<tr>
<td>Homicide by Mafia</td>
<td>0.02</td>
<td>0.03</td>
<td>0.01</td>
<td>0.04</td>
</tr>
<tr>
<td>Mafia type Association</td>
<td>0.81</td>
<td>0.76</td>
<td>0.39</td>
<td>0.76</td>
</tr>
<tr>
<td>Money laundering</td>
<td>4.86</td>
<td>0.20</td>
<td>11.94</td>
<td>63.19</td>
</tr>
<tr>
<td>Prostitution</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Smuggling</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Threats</td>
<td>5.19</td>
<td>5.91</td>
<td>1.26</td>
<td>2.80</td>
</tr>
<tr>
<td>Usury</td>
<td>0.38</td>
<td>0.35</td>
<td>7.01</td>
<td>1.01</td>
</tr>
<tr>
<td>Corruption in public acts</td>
<td>3.57</td>
<td>3.00</td>
<td>47.26</td>
<td>4.01</td>
</tr>
<tr>
<td>Instigation to corrupt</td>
<td>0.13</td>
<td>7.55</td>
<td>5.72</td>
<td>2.46</td>
</tr>
<tr>
<td>Judicial corruption</td>
<td>71.75</td>
<td>43.27</td>
<td>10.50</td>
<td>1.94</td>
</tr>
<tr>
<td>Kidnapping for extortion purpose</td>
<td>0.04</td>
<td>0.01</td>
<td>0.01</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Second, we employ the hierarchical dynamic factor models proposed by Moench, Ng, and Potter (2013) to account for the correlations between the shocks at the different levels of aggregation. In particular, we employ this multilevel factor model using common (Italy level – global), block-specific (macro regions), and sub-block-specific (regions) to capture the within- and between-block variations in the measurement sys-
tem of organized crime. Given that this method does not allow for missing observations, we only use a set of five variables (Criminal Association, Drugs, Mafia type Association, Extortions and Prostitution). As it is illustrated by Figs. 3 and 4, the common factor exhibits a similar pattern to the one we obtained using the first method in Figs. 1 and 2 although it is only based on a much smaller set of variables. Table 5 presents the variance decomposition analysis to document the importance of the variation of aggregate (Italy-wide), block-specific (Macro), and subblock-specific (Regional) components as well as idiosyncratic noise relative to the total variation in the data.

The variations due to idiosyncratic shocks dominate other variations in all cases. Overall we can see that regarding the other variations the sub-block specific variations are larger. Notice in particular that in Southern regions (where organized crime is more widespread) the regional component is relatively high.
Table 5  Share F, Share G, Share H, Share Z denote the average variance share across all variables in the block due to aggregate, block-level, subblock-level and idiosyncratic shocks respective

<table>
<thead>
<tr>
<th></th>
<th>Share F Aggregate component (Italy)</th>
<th>Share G Block –specific component (Macro-region)</th>
<th>Share H Sub-block specific component (Region)</th>
<th>Share Z Idiosyncratic noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lazio</td>
<td>0.10</td>
<td>0.09</td>
<td>0.10</td>
<td>0.71</td>
</tr>
<tr>
<td>Marche</td>
<td>0.08</td>
<td>0.07</td>
<td>0.13</td>
<td>0.72</td>
</tr>
<tr>
<td>Toscana</td>
<td>0.10</td>
<td>0.09</td>
<td>0.09</td>
<td>0.72</td>
</tr>
<tr>
<td>Umbria</td>
<td>0.19</td>
<td>0.16</td>
<td>0.10</td>
<td>0.55</td>
</tr>
<tr>
<td>North</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emilia Romagna</td>
<td>0.17</td>
<td>0.07</td>
<td>0.07</td>
<td>0.69</td>
</tr>
<tr>
<td>Friuli Venezia Giulia</td>
<td>0.10</td>
<td>0.04</td>
<td>0.17</td>
<td>0.69</td>
</tr>
<tr>
<td>Liguria</td>
<td>0.21</td>
<td>0.09</td>
<td>0.10</td>
<td>0.61</td>
</tr>
<tr>
<td>Lombardia</td>
<td>0.10</td>
<td>0.09</td>
<td>0.03</td>
<td>0.68</td>
</tr>
<tr>
<td>Piemonte</td>
<td>0.20</td>
<td>0.08</td>
<td>0.06</td>
<td>0.66</td>
</tr>
<tr>
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<td>0.17</td>
<td>0.07</td>
<td>0.06</td>
<td>0.70</td>
</tr>
<tr>
<td>Valle D’Aosta</td>
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<td>0.06</td>
<td>0.09</td>
<td>0.70</td>
</tr>
<tr>
<td>Veneto</td>
<td>0.19</td>
<td>0.08</td>
<td>0.06</td>
<td>0.66</td>
</tr>
<tr>
<td>South</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abruzzo</td>
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<td>0.13</td>
<td>0.13</td>
<td>0.71</td>
</tr>
<tr>
<td>Basilicata</td>
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<td>0.02</td>
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</tr>
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<td>0.15</td>
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</tr>
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<td>Campania</td>
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<td>0.07</td>
<td>0.22</td>
<td>0.70</td>
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<td>Molise</td>
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<td>0.02</td>
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<td>0.03</td>
<td>0.22</td>
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<tr>
<td>Sardegna</td>
<td>0.01</td>
<td>0.04</td>
<td>0.23</td>
<td>0.72</td>
</tr>
<tr>
<td>Sicilia</td>
<td>0.01</td>
<td>0.06</td>
<td>0.21</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Inequality and Socio-Economic Mobility

We employ six different inequality metrics that capture different aspects of the distribution: (i) the Gini index, (ii) the Atkinson inequality index, and four percentile ratios: (iii) P90/P10, (iv) P75/P25, (v) P90/P50, and (vi) P75/P50. The Gini and Atkinson indices take value between 0 and 1 as opposed to the percentile ratios that do not have this restriction. For each inequality metric, we construct 2 different measures of inequality based on total consumption and household net income. For inequality measures on consumption and income we consider all the observations in which the heads of household are aged from 25 to 65. Table 6 presents summary statistics of these inequality measures.

For socio-economic mobility, we use the measures computed by Acciari et al. (2017), based on Italian tax data. In particular our measures of mobility measure

---

10 For definitions and details on the Gini and Atkinson index see e.g. Cowell (2011).
immobility between parents’ income in 1998 and children’s income in 2012 at provincial level. The three indices we consider are: (i) **Relative mobility**: this is the slope of a rank-rank regression between child ranks and parent ranks and measure the difference in outcomes between children from top vs. bottom income families within province (Chetty et al. 2014). A high value indicates low mobility; (ii) **Absolute mobility – expected rank**: this index measures the expected rank of children from families at the bottom 25% of the national parent income distribution (Chetty et al. 2014). A high value indicates high mobility; (iii) **Absolute mobility – Q1toQ5** measures the probability of rising from the bottom quintile to the top quintile of the income distribution (Corak and Heisz 1999; Hertz 2006). A high value indicates high mobility.

**Other Covariates**

We consider as covariates in our analysis indicators of the economic conditions and of human capital, under the assumption that bad economic conditions and low levels of human capital can positively affect organized crime development. In particular, we use secondary education level, the economic activity rate, the growth rate of compensation of employee, the growth rate of total hours worked, the participation in education and training, the long-term unemployment rate, the growth rate of gross fixed capital formation (see Tables 1 and 7 for the definitions and for summary statistics).

**Table 6** Summary statistics of inequality indices

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs.</th>
<th>Mean</th>
<th>sd</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Net income – Households</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gini Index</td>
<td>120</td>
<td>0.287</td>
<td>0.037</td>
<td>0.165</td>
<td>0.396</td>
</tr>
<tr>
<td>Atkinson inequality index</td>
<td>120</td>
<td>0.265</td>
<td>0.066</td>
<td>0.095</td>
<td>0.43</td>
</tr>
<tr>
<td>P90/P10</td>
<td>120</td>
<td>3.733</td>
<td>0.814</td>
<td>2.111</td>
<td>7.087</td>
</tr>
<tr>
<td>P75/P25</td>
<td>120</td>
<td>1.92</td>
<td>0.192</td>
<td>1.567</td>
<td>2.568</td>
</tr>
<tr>
<td>P90/P50</td>
<td>120</td>
<td>1.896</td>
<td>0.24</td>
<td>1.405</td>
<td>2.677</td>
</tr>
<tr>
<td>P75/P50</td>
<td>120</td>
<td>1.382</td>
<td>0.087</td>
<td>1.224</td>
<td>1.628</td>
</tr>
<tr>
<td><strong>B. Total Consumption – Households</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gini Index</td>
<td>118</td>
<td>0.251</td>
<td>0.029</td>
<td>0.138</td>
<td>0.327</td>
</tr>
<tr>
<td>Atkinson inequality index</td>
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<td>0.186</td>
<td>0.036</td>
<td>0.062</td>
<td>0.296</td>
</tr>
<tr>
<td>P90/P10</td>
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<td>3.084</td>
<td>0.419</td>
<td>1.961</td>
<td>4.82</td>
</tr>
<tr>
<td>P75/P25</td>
<td>118</td>
<td>1.765</td>
<td>0.125</td>
<td>1.35</td>
<td>2.107</td>
</tr>
<tr>
<td>P90/P50</td>
<td>118</td>
<td>1.799</td>
<td>0.146</td>
<td>1.366</td>
<td>2.26</td>
</tr>
<tr>
<td>P75/P50</td>
<td>118</td>
<td>1.335</td>
<td>0.053</td>
<td>1.152</td>
<td>1.432</td>
</tr>
</tbody>
</table>
Methodology

The focus of this paper is to investigate how changes in organized crime (OC) are related to inequality (INEQ) and social mobility (SM).

Our benchmark model for inequality takes the form of a dynamic panel model:

$$OC_t = \rho OC_{t-1} + \beta_1 INEQ_t + \gamma' Z_t + \xi_t + \nu_t + u_t,$$

(3)

where $\nu_t$ is the fixed effect, $\xi_t$ is the time effect, and $u_t$ is the idiosyncratic error term. $Z_t$ includes a constant and other covariates. Following Blundell and Bond (1998), we estimate this model using system 2-step GMM up to 4 lags as instrumental variables and robust standard errors. Given that the impact of inequality on organized crime development can be not contemporaneous, we also tried specifications with a lagged value of INEQ.

In the case of measurement of organized crime by the estimated dynamic factor, we had to consider differences in this variable to make the series stationary. This implied considering also INEQ in differences. In this case the estimated dynamic panel takes the form:

$$\Delta OC_t = \rho \Delta OC_{t-1} + \beta_1 \Delta INEQ_t + \gamma' \Delta Z_t + \xi_t + \nu_t + u_t$$

(4)

As for socio-economic mobility, given that our data are only available as a cross-section we estimate a simple cross-sectional regression of the form:

$$OC_i = \beta_M SM_i + \gamma' Z_i + u_i$$

(5)

The next section contains the results of our econometric analysis.

---

We implement this estimation using the Stata package xtabond2 by Roodman (2009).
Results

This section presents the results of our econometric analysis. In particular, Section “Organized Crime and Inequality” discusses the results on inequality and organized crime, while Section “Organized Crime and Socio-Economic Mobility” those on socio-economic mobility and OC.

Organized Crime and Inequality

Tables 8 and 9 contain the results of regressions of organized crime on INEQ for both indices based on Calderoni (2011), i.e. Calderoni Rank Index and Calderoni Mean Index, considering respectively indices of income inequality and consumption inequality. The results show that the coefficients of the effect of inequality on organized crime have positive and significant coefficients in particular when the Calderoni Mean Index is utilized in the regressions. Under the null of joint validity of instruments, the Hansen’s test of over-identification provides us enough evidence about the validity of our instruments, in all models (at least at 5% significance level).

We then estimated specifications in which we added lagged values of inequality indices. Table 10 contains the results of specifications for consumption inequality, as the effects of income inequality resulted scarcely significant. Results in Table 10 shows that, with the Calderoni Mean Index, all six metrics of inequality measures have positive and significant coefficients: in particular, the contemporaneous values of P90/P10, P90/P50 and P75/P50 and the lagged values of the Gini and Atkinson Indices and P75/P25. In the case of the Calderoni Rank Index, the coefficients of the lagged values of the Atkinson index, P90/P10, P75/P25, P90/P50 are positive and significant.

Given the results presented Tables 8, 9 and 10 we kept as our preferred metric of inequality the P90/P10 index and its lagged value. Table 11 contains the results of regressions in which we added other covariates, related to potential economic deter-

---

12 Regressions are run on data from 19 out of 20 Italian regions. The region of Val d’Aosta is dropped for lack of data.

13 In particular, results for income inequality return a significant coefficient only with the Calderoni Mean Index for the lagged values of the Atkinson index (at 5%) and of P90/P10 (at 1%).

14 In particular, we chose P90/P10 as our preferred (consumption) inequality measure for the following reasons. P75/P50 in Tables 7 and 8 is significant 4 times out of 4, while P90/P10 is significant 3 times out of four. However, in Table 9, P75/P50 is scarcely significant. Moreover, in Table 9 we see that P90/P10 is significant in 2 cases out of 4 (considering both the coefficients for contemporaneous and lagged inequality indices), as other inequality measures, but it is the only one with a highly significant coefficient in at least one case. This result is likely to depend on the fact that the relationship between the extreme quintiles is more representative of the dynamics of inequality over time than measures based on quintiles that mostly capture the dynamics of the share of income of the middle class (see e.g. Garbinti et al. 2018)
Table 8  This tables presents dynamic panel regressions of Mafia Rank Index and Mafia Mean Index based on Calderoni (2011) on alternative consumption inequality indices. All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.

<table>
<thead>
<tr>
<th>Dependent var.</th>
<th>Mafia rank index</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged Mafia Index</td>
<td>(1) (2) (3) (4) (5) (6)</td>
<td>(7) (8) (9) (10) (11) (12)</td>
</tr>
<tr>
<td></td>
<td>0.60** 0.72*** 0.74*** 0.72*** 0.69***</td>
<td>0.87*** 0.96*** 0.88*** 0.95*** 0.95*** 0.91***</td>
</tr>
<tr>
<td></td>
<td>(0.27) (0.17) (0.06) (0.20) (0.09) (0.10)</td>
<td>(0.08) (0.08) (0.06) (0.07) (0.09) (0.09)</td>
</tr>
<tr>
<td>Gini</td>
<td>45.96</td>
<td>76.51</td>
</tr>
<tr>
<td></td>
<td>(61.63)</td>
<td>(56.72)</td>
</tr>
<tr>
<td>Gini</td>
<td>2.10</td>
<td>33.16</td>
</tr>
<tr>
<td></td>
<td>(19.49)</td>
<td>(25.84)</td>
</tr>
<tr>
<td>P90/P10</td>
<td>2.47**</td>
<td>3.53***</td>
</tr>
<tr>
<td></td>
<td>(0.90)</td>
<td>(1.04)</td>
</tr>
<tr>
<td>P75/P25</td>
<td>8.19</td>
<td>19.70**</td>
</tr>
<tr>
<td></td>
<td>(7.37)</td>
<td>(8.08)</td>
</tr>
<tr>
<td>P90/P50</td>
<td>8.44*</td>
<td>19.80**</td>
</tr>
<tr>
<td></td>
<td>(4.20)</td>
<td>(8.50)</td>
</tr>
<tr>
<td>P75/P50</td>
<td>17.78**</td>
<td>48.77***</td>
</tr>
<tr>
<td></td>
<td>(8.13)</td>
<td>(16.61)</td>
</tr>
<tr>
<td>period3</td>
<td>6.78*** 7.56*** 6.36*** 7.11*** 6.45*** 7.51***</td>
<td>−0.68 −0.98 −1.08 −0.06 −0.49 0.68</td>
</tr>
<tr>
<td></td>
<td>(1.67) (1.82) (1.46) (1.55) (1.38) (1.04)</td>
<td>(0.98) (1.34) (1.06) (1.17) (1.05) (1.18)</td>
</tr>
<tr>
<td>period4</td>
<td>11.55*** 11.48*** 10.88*** 11.32*** 10.07*** 11.18*** 0.42 0.08 0.77 2.07* 0.64</td>
<td>1.37</td>
</tr>
<tr>
<td></td>
<td>(1.57) (1.95) (1.56) (1.79) (1.73) (1.57) (0.87) (0.94) (1.01) (1.01) (1.08) (1.05)</td>
<td></td>
</tr>
<tr>
<td>period5</td>
<td>4.85* 4.18 3.85** 3.86* 4.27* 4.64*** 0.55 −0.02 0.96 1.22 2.08 1.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.67) (2.64) (1.74) (2.20) (2.18) (1.47) (2.66) (2.54) (2.73) (2.73) (2.69) (2.73)</td>
<td></td>
</tr>
<tr>
<td>period6</td>
<td>5.65*** 5.44** 4.43** 5.05*** 4.93*** 6.21*** −0.11 −1.87 −1.01 −0.04 1.12 1.06</td>
<td></td>
</tr>
</tbody>
</table>

(continued)
Table 8 (continued)

<table>
<thead>
<tr>
<th>Dependent var.</th>
<th>Mafia rank index</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Regressors</td>
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</tr>
<tr>
<td></td>
<td>(1.55)</td>
<td>(2.04)</td>
</tr>
<tr>
<td>Constant</td>
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</tr>
<tr>
<td>Observations</td>
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<td>95</td>
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<tr>
<td>Number of Regions</td>
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<td>19</td>
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<tr>
<td>Hansen test p-value</td>
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<td>0.730</td>
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</table>

All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
Table 9 This table presents dynamic panel regressions of Mafia Rank Index and Mafia Mean Index based on Calderoni (2011) on alternative inequality indices. All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.

<table>
<thead>
<tr>
<th>Dependent var.</th>
<th>Mafia rank index</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastress var.</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)</td>
<td></td>
</tr>
<tr>
<td>Lagged Mafia Index</td>
<td>0.80***</td>
<td>0.46***</td>
</tr>
<tr>
<td>Gini</td>
<td>41.41</td>
<td>179.06**</td>
</tr>
<tr>
<td>Atkinson</td>
<td>82.54*</td>
<td></td>
</tr>
<tr>
<td>P90/P10</td>
<td>5.65</td>
<td></td>
</tr>
<tr>
<td>P75/P25</td>
<td>10.26</td>
<td></td>
</tr>
<tr>
<td>P90/P50</td>
<td>2.72</td>
<td></td>
</tr>
<tr>
<td>P75/P50</td>
<td>53.59**</td>
<td></td>
</tr>
<tr>
<td>period3</td>
<td>8.30***</td>
<td>6.66***</td>
</tr>
<tr>
<td>period4</td>
<td>11.94***</td>
<td>10.19***</td>
</tr>
<tr>
<td>period5</td>
<td>4.38*</td>
<td>7.88***</td>
</tr>
<tr>
<td>period6</td>
<td>5.61***</td>
<td>6.94***</td>
</tr>
</tbody>
</table>

(continued)
## Table 9 (continued)

<table>
<thead>
<tr>
<th>Dependent var.</th>
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<th>Mafia mean index</th>
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</thead>
<tbody>
<tr>
<td>Regressors</td>
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<td>Constant</td>
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<tr>
<td>Observations</td>
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<td>95</td>
</tr>
<tr>
<td>Number of Regions</td>
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<td>19</td>
</tr>
<tr>
<td>Hansen test p-value</td>
<td>0.983</td>
<td>0.187</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
Table 10  This table presents dynamic panel regressions of the Mean Mafia Index, which is the Mafia Rank Index based on Calderoni (2011), on P90/P10 ratio and other determinants. All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. All regression models include fixed effects and time effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.

<table>
<thead>
<tr>
<th>Dependent var.</th>
<th>Mafia rank index</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
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<tr>
<td>Lagged Mafia Index</td>
<td>0.42**</td>
<td>0.42**</td>
</tr>
<tr>
<td></td>
<td>(0.17)</td>
<td>(0.15)</td>
</tr>
<tr>
<td>Gini</td>
<td>78.50</td>
<td>32.85</td>
</tr>
<tr>
<td></td>
<td>(72.39)</td>
<td>(46.96)</td>
</tr>
<tr>
<td>Lagged Gini</td>
<td>41.35</td>
<td>70.80**</td>
</tr>
<tr>
<td></td>
<td>(31.44)</td>
<td>(33.06)</td>
</tr>
<tr>
<td>Atkinson</td>
<td>57.76</td>
<td>20.39</td>
</tr>
<tr>
<td></td>
<td>(60.21)</td>
<td>(41.88)</td>
</tr>
<tr>
<td>Lagged Atkinson</td>
<td>48.23*</td>
<td>53.51*</td>
</tr>
<tr>
<td></td>
<td>(26.09)</td>
<td>(29.15)</td>
</tr>
<tr>
<td>P90/P10</td>
<td>1.25</td>
<td>15.28***</td>
</tr>
<tr>
<td></td>
<td>(5.22)</td>
<td>(4.30)</td>
</tr>
<tr>
<td>Lagged P90/P10</td>
<td>3.81*</td>
<td>−2.84</td>
</tr>
<tr>
<td></td>
<td>(2.13)</td>
<td>(3.46)</td>
</tr>
<tr>
<td>P75/P25</td>
<td>−3.80</td>
<td>3.53</td>
</tr>
<tr>
<td></td>
<td>(13.20)</td>
<td>(15.78)</td>
</tr>
<tr>
<td>Lagged P75/P25</td>
<td>20.19*</td>
<td>14.98*</td>
</tr>
<tr>
<td></td>
<td>(11.46)</td>
<td>(8.27)</td>
</tr>
<tr>
<td>P90/P50</td>
<td>0.32</td>
<td>21.79**</td>
</tr>
<tr>
<td></td>
<td>(12.23)</td>
<td>(9.80)</td>
</tr>
</tbody>
</table>

(continued)
Table 10 (continued)

<table>
<thead>
<tr>
<th>Dependent var.</th>
<th>Mafia rank index</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regressors</td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Lagged P90/P50</td>
<td>13.74*</td>
<td>(7.27)</td>
</tr>
<tr>
<td></td>
<td>(7.27)</td>
<td>(8.22)</td>
</tr>
<tr>
<td>P75/P50</td>
<td>31.88</td>
<td>(90.24)</td>
</tr>
<tr>
<td></td>
<td>(41.14)</td>
<td>(56.98)</td>
</tr>
<tr>
<td>Lagged P75/P50</td>
<td>5.63</td>
<td>(43.36)</td>
</tr>
<tr>
<td></td>
<td>(26.16)</td>
<td>(26.16)</td>
</tr>
<tr>
<td>period3</td>
<td>5.55**</td>
<td>5.09***</td>
</tr>
<tr>
<td></td>
<td>(2.11)</td>
<td>(1.45)</td>
</tr>
<tr>
<td>period4</td>
<td>10.05***</td>
<td>9.98***</td>
</tr>
<tr>
<td></td>
<td>(1.97)</td>
<td>(1.83)</td>
</tr>
<tr>
<td>period5</td>
<td>7.22**</td>
<td>7.15**</td>
</tr>
<tr>
<td></td>
<td>(3.10)</td>
<td>(2.87)</td>
</tr>
<tr>
<td>period6</td>
<td>7.85***</td>
<td>7.37***</td>
</tr>
<tr>
<td></td>
<td>(1.87)</td>
<td>(1.71)</td>
</tr>
<tr>
<td>Constant</td>
<td>−17.60</td>
<td>−6.92</td>
</tr>
<tr>
<td>Observations</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Number of Regions</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Hansen test p-value</td>
<td>0.360</td>
<td>0.405</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
Table 11  This table presents dynamic panel regressions of the Mean Mafia Index, which is the Mafia Rank Index based on Calderoni (2011), on P90/P10 ratio and other determinants.

<table>
<thead>
<tr>
<th>Dependent var</th>
<th>Mafia rank index</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged Mafia Index</td>
<td>0.93***</td>
<td>0.92***</td>
</tr>
<tr>
<td>(0.06)</td>
<td>(0.06)</td>
<td>(0.09)</td>
</tr>
<tr>
<td>P90/P10</td>
<td>0.63</td>
<td>1.99</td>
</tr>
<tr>
<td>(1.08)</td>
<td>(2.37)</td>
<td>(3.31)</td>
</tr>
<tr>
<td>Lagged P90/ P10</td>
<td>3.66***</td>
<td>2.06*</td>
</tr>
<tr>
<td>(1.18)</td>
<td>(1.11)</td>
<td>(1.78)</td>
</tr>
<tr>
<td>Economic activity rate</td>
<td>−0.79***</td>
<td>−0.60*</td>
</tr>
<tr>
<td>(0.22)</td>
<td>(0.29)</td>
<td>(0.20)</td>
</tr>
<tr>
<td>Secondary Education level</td>
<td>0.42</td>
<td>0.08</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>26.97</td>
<td>−32.20</td>
</tr>
<tr>
<td>(54.31)</td>
<td>(29.36)</td>
<td></td>
</tr>
<tr>
<td>Long-run unemployment</td>
<td>−3.12***</td>
<td>0.30</td>
</tr>
<tr>
<td>(0.72)</td>
<td>(0.55)</td>
<td></td>
</tr>
<tr>
<td>Gross fixed capital formation</td>
<td>23.15</td>
<td>−3.32</td>
</tr>
<tr>
<td>(37.95)</td>
<td>(30.03)</td>
<td></td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Dependent var</th>
<th>Mafia rank index</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total hours worked</td>
<td></td>
<td>-314.74**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(144.53)</td>
</tr>
<tr>
<td>Part. in education and training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Period3</td>
<td>-1.10</td>
<td>-1.64</td>
</tr>
<tr>
<td></td>
<td>(1.23)</td>
<td>(2.67)</td>
</tr>
<tr>
<td>Period4</td>
<td>-1.84</td>
<td>-2.31</td>
</tr>
<tr>
<td></td>
<td>(1.21)</td>
<td>(2.16)</td>
</tr>
<tr>
<td>Period5</td>
<td>-0.12</td>
<td>57.85**</td>
</tr>
<tr>
<td></td>
<td>(2.34)</td>
<td>(24.64)</td>
</tr>
<tr>
<td>Period6</td>
<td>-0.37</td>
<td>1.39</td>
</tr>
<tr>
<td></td>
<td>(1.39)</td>
<td>(3.24)</td>
</tr>
<tr>
<td>Constant</td>
<td>-11.42</td>
<td>47.21**</td>
</tr>
<tr>
<td></td>
<td>(6.67)</td>
<td>(18.96)</td>
</tr>
<tr>
<td>Observations</td>
<td>95</td>
<td>72</td>
</tr>
<tr>
<td>Number of Regions</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Hansen test p-value</td>
<td>0.410</td>
<td>0.456</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. All regression models include fixed effects and time effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
minants of OC.\textsuperscript{15} Table 11 shows that the lagged value of P90/P10 has a positive and significant coefficient in almost all the specifications with the Mafia Rank Index.

Table 12 presents the results where the measure of organized crime is based on the innovative method we described in Section 2.1 based on the estimation of a dynamic common factor.\textsuperscript{16} We can see that the coefficients of the indices of inequality (in this case appearing as differences) have positive and significant coefficients with the exception of P75/P25 and P75/P50.

Table 13 contains the results of the regressions with additional covariates when we consider the effect of consumption inequality on the factor index computed following Banbura and Modugno (2014).\textsuperscript{17} We can observe that in almost all the specifications the effect of inequality (in differences) is positive and significant.

\textbf{Organized Crime and Socio-Economic Mobility}

In this section, we present the results of cross-section regressions estimating the effect of indicators of socio-economic mobility on OC. The analysis is carried out at provincial level. Table 14 contains the summary statistics. Table 15 contains simple regressions of our two organized crime measures (Calderoni Rank Index and Calderoni Mean Index) on the three metrics of socio-economic mobility we considered in this report only and a constant, while Tables 16, 17 and 18 adds the covariates related to economic conditions and human capital levels to regressions with the Calderoni Mean Index.\textsuperscript{18} The mobility indices’ coefficients have the expected signs and are highly significant. The same result holds for Table 19, which reports the results for the correlation of the relative mobility index on the Calderoni Rank Index.\textsuperscript{19}

\textbf{Discussion}

The main findings of our study are twofold. First, it documents the linkages between organized crime and inequality. We find that higher levels of inequality can lead to higher organized crime development using the percentile ratio P90/P10 of con-

\textsuperscript{15}We only report results for consumption inequality. Regressions on income inequality returned positive and significant coefficients for the lagged value of P90/P10 in Models 1, 2, 4, 5 with the Calderoni Rank Index.

\textsuperscript{16}We only report results for consumption inequality, as regressions on income inequality measures did not return significant results.

\textsuperscript{17}We also estimated regressions using the Hierarchical dynamic factors, but the results were not significant. This is likely due to the fact that we used only five variables to estimate them.

\textsuperscript{18}The set of covariates used for the regional and provincial analysis do not perfectly match because of data availability. Model 7 in Tables 15, 16 and 17 contains a dummy for the Northern regions as the latter proved to be highly significant in regressions on the mobility indices and macro-region dummies.

\textsuperscript{19}The results for the other mobility indices are not significant.
Table 12  The tables presents regressions of two latent factors on alternative inequality of consumption indices

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Hierarchical dynamic factor analysis</th>
<th>EM algorithm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
<td>(10) (11) (12)</td>
</tr>
<tr>
<td>Lagged Mafia Index</td>
<td>−0.43 −0.41 −0.37 −0.37∗ −0.32∗ −0.26∗</td>
<td>−0.09∗ −0.11 −0.16∗ −0.12 −0.11 −0.12∗ˈ</td>
</tr>
<tr>
<td></td>
<td>(0.25) (0.25) (0.32) (0.19) (0.15)</td>
<td>(0.05) (0.08) (0.08) (0.08) (0.07) (0.05)</td>
</tr>
<tr>
<td>ΔGini</td>
<td>1.42∗∗</td>
<td>2.08∗</td>
</tr>
<tr>
<td></td>
<td>(0.64)</td>
<td>(1.02)</td>
</tr>
<tr>
<td>ΔAtkinson</td>
<td>1.16∗∗</td>
<td>1.51</td>
</tr>
<tr>
<td></td>
<td>(0.53)</td>
<td>(0.77)</td>
</tr>
<tr>
<td>ΔP90/P10</td>
<td>0.15*</td>
<td>0.14∗∗</td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>ΔP75/P25</td>
<td>0.08</td>
<td>0.23</td>
</tr>
<tr>
<td></td>
<td>(0.16)</td>
<td>(0.26)</td>
</tr>
<tr>
<td>ΔP90/P50</td>
<td>0.34∗∗</td>
<td>0.24∗∗∗</td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>ΔP75/P50</td>
<td>−0.52</td>
<td>1.18</td>
</tr>
<tr>
<td></td>
<td>(0.40)</td>
<td>(1.19)</td>
</tr>
<tr>
<td>Period3</td>
<td>0.01 0.00 −0.00 −0.03∗ −0.00 −0.04</td>
<td>0.06 0.09 0.07 0.02 0.03 0.03</td>
</tr>
<tr>
<td></td>
<td>(0.02) (0.02) (0.03) (0.02) (0.03)</td>
<td>(0.02) (0.04) (0.06) (0.05) (0.07) (0.04)</td>
</tr>
<tr>
<td>Period4</td>
<td>0.01 0.01 0.00 −0.02 0.01 −0.03</td>
<td>0.04 0.06 0.04 0.01 0.02 −0.01</td>
</tr>
<tr>
<td></td>
<td>(0.03) (0.04) (0.04) (0.03) (0.04)</td>
<td>(0.03) (0.05) (0.07) (0.05) (0.07) (0.06)</td>
</tr>
<tr>
<td>Period5</td>
<td>0.03 0.03 0.04 −0.02 0.04 −0.05∗∗∗ 0.09 0.10 0.10∗ 0.05 0.06 0.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.04) (0.04) (0.06) (0.02) (0.04)</td>
<td>(0.02) (0.05) (0.06) (0.05) (0.07) (0.04)</td>
</tr>
<tr>
<td>Period6</td>
<td>0.01 0.00 −0.01 −0.01 0.02 −0.02</td>
<td>0.03 0.02 0.01 −0.02 0.01 0.00</td>
</tr>
<tr>
<td></td>
<td>(0.03) (0.02) (0.03) (0.02) (0.03)</td>
<td>(0.02) (0.03) (0.03) (0.04) (0.04) (0.03)</td>
</tr>
<tr>
<td>Constant</td>
<td>−0.02 −0.01 −0.01 0.01 −0.01 0.03∗ −0.05 −0.06 −0.05 −0.01 −0.03 −0.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.02) (0.02) (0.03) (0.01) (0.02)</td>
<td>(0.01) (0.04) (0.05) (0.04) (0.05) (0.04)</td>
</tr>
<tr>
<td>Observations</td>
<td>95 95 95 95 95 95 95 95 95 95 95 95 95</td>
<td></td>
</tr>
</tbody>
</table>
In Panel A, we have the results of a factor constructed using a hierarchical dynamic factor methodology, while in Panel B we show the results of a dynamic factor estimated by using a modified Expectation Maximisation (EM) algorithm. Given that the latent factors are constructed on transformed data to endure stationarity (growth rates) we also transform the regressors into first differences, too. All results are based on the baseline sample of 5-year averages. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. All regressions control for fixed effects and time period effects. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
Table 13  This table presents dynamic panel regressions of the Mafia Factor Index on P90/P10 ratio and other determinants

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mafia factor index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regressors</td>
<td>(1)</td>
</tr>
<tr>
<td>Lagged Mafia Index</td>
<td>−0.16∗</td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
</tr>
<tr>
<td>ΔP90/P10</td>
<td>0.14∗∗</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
</tr>
<tr>
<td>ΔEconomic activity rate</td>
<td>−0.03</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
</tr>
<tr>
<td>ΔSecondary Education level</td>
<td>−0.00</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
</tr>
<tr>
<td>ΔCompensation of employees</td>
<td>−0.08</td>
</tr>
<tr>
<td></td>
<td>(0.70)</td>
</tr>
<tr>
<td>ΔLong-run unemployment</td>
<td>−0.02</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
</tr>
<tr>
<td>ΔGross fixed capital formation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔTotal hours worked</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔPart. in education and training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Period3</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
</tr>
<tr>
<td>Period4</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
</tr>
<tr>
<td>Period5</td>
<td>0.10∗</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
</tr>
<tr>
<td>Period6</td>
<td>0.01</td>
</tr>
<tr>
<td>Dependent variable</td>
<td>Mafia factor index</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Regressors</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
</tr>
<tr>
<td>Constant</td>
<td>−0.05</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
</tr>
<tr>
<td>Observations</td>
<td>95</td>
</tr>
<tr>
<td>Number of Regions</td>
<td>19</td>
</tr>
<tr>
<td>Hansen test p-value</td>
<td>0.987</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. All models control for fixed effects and time period effects. Given that the latent factors are constructed on transformed data to endure stationarity (growth rates) we also transform the regressors into first differences, too. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. All regression models include fixed effects and time effects. Estimation is based on system GMM (Blundell and Bond (1998) using instruments up to the 4th lag. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
Table 14  Summary statistics on socio-economic mobility and OC measures at provincial level

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>sd</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Organized Crime Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.3 Calderoni Mean Index (Type I,II)</td>
<td>95</td>
<td>2.003</td>
<td>0.453</td>
<td>100</td>
<td>10.163</td>
<td>0.820</td>
<td>0.970</td>
<td>1.051</td>
</tr>
<tr>
<td>A.4 Calderoni Rank Index (Type I,II)</td>
<td>95</td>
<td>50.526</td>
<td>15.855</td>
<td>93.816</td>
<td>13.005</td>
<td>42.039</td>
<td>50.724</td>
<td>59.474</td>
</tr>
<tr>
<td>B. Social Mobility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.1 Absolute Upward Mobility: Expected Rank</td>
<td>95</td>
<td>0.463</td>
<td>0.371</td>
<td>0.625</td>
<td>0.059</td>
<td>0.410</td>
<td>0.457</td>
<td>0.523</td>
</tr>
<tr>
<td>B.2 Absolute Upward Mobility: Q1Q5</td>
<td>95</td>
<td>0.131</td>
<td>0.042</td>
<td>0.389</td>
<td>0.064</td>
<td>0.077</td>
<td>0.112</td>
<td>0.188</td>
</tr>
<tr>
<td>B.3 Relative Mobility</td>
<td>95</td>
<td>0.168</td>
<td>0.095</td>
<td>0.222</td>
<td>0.028</td>
<td>0.148</td>
<td>0.169</td>
<td>0.190</td>
</tr>
</tbody>
</table>

Table 15  The tables presents cross-sectional regressions of three alternative socio-economic mobility measures

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mafia mean index (Type I,II)</th>
<th>Mafia rank index (Type I,II)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regressors</td>
<td>(7)</td>
<td>(8)</td>
</tr>
<tr>
<td>(9)</td>
<td>(10)</td>
<td>(11)</td>
</tr>
<tr>
<td>Absolute Upward Mobility: Expected Rank</td>
<td>$-60.35^{***}$</td>
<td>$-53.19^{**}$</td>
</tr>
<tr>
<td>(9.776)</td>
<td>(20.72)</td>
<td></td>
</tr>
<tr>
<td>Absolute Upward Mobility: Q1Q5</td>
<td>$-50.32^{***}$</td>
<td>$-39.19^{**}$</td>
</tr>
<tr>
<td>(9.324)</td>
<td>(18.56)</td>
<td></td>
</tr>
<tr>
<td>Relative Mobility</td>
<td>116.7^{***}</td>
<td>179.2^{***}</td>
</tr>
<tr>
<td>(23.62)</td>
<td>(42.37)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>48.81^{***}</td>
<td>27.42^{***}</td>
</tr>
<tr>
<td>(4.778)</td>
<td>(1.471)</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.269</td>
<td>0.218</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. $^{***}$, $^{**}$, and $^{*}$ denote significance of the regression coefficient at 1%, 5%, and 10%

consumption inequality. Second, we find that lower levels of socio-economic mobility are associated with organized crime development.

An important issue is whether changes in welfare are better measured by consumption inequality rather than income inequality, especially when one examines the role of inequality in organized crime. As argued by Attanasio and Pistaferri (2016) consumption inequality is potentially a better measure of changes in welfare than income inequality. According to Friedman’s permanent income hypothesis, in fact, households prefer a smooth consumption flow, that is they choose to consume a constant fraction of the permanent income because annual income is too volatile. Assuming that income can be decomposed into a permanent component and a tran-
**Table 16** The table presents cross-sectional regressions

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regressors</td>
<td>(1)</td>
</tr>
<tr>
<td>Absolute Upward Mobility: Expected Rank</td>
<td>$-40.13^{**}$</td>
</tr>
<tr>
<td></td>
<td>(17.24)</td>
</tr>
<tr>
<td>Economic activity rate</td>
<td>$-0.213$</td>
</tr>
<tr>
<td></td>
<td>(0.173)</td>
</tr>
<tr>
<td>Secondary Education level</td>
<td>0.355</td>
</tr>
<tr>
<td></td>
<td>(0.232)</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-run unemployment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross fixed capital formation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total hours worked</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Part. in education and training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>51.21^{***}</td>
</tr>
<tr>
<td></td>
<td>(5.596)</td>
</tr>
<tr>
<td>Observations</td>
<td>95</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.282</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Absolute Upward Mobility: Q1Q5</td>
<td>$-24.65^{**}$ $(11.80)$</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
</tr>
<tr>
<td>Economic activity rate</td>
<td>$-0.335^{**}$ $(0.134)$</td>
</tr>
<tr>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>Secondary Education level</td>
<td>0.347 $(0.231)$</td>
</tr>
<tr>
<td></td>
<td>(4)</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>$-14.94$ $(41.43)$</td>
</tr>
<tr>
<td></td>
<td>(5)</td>
</tr>
<tr>
<td>Long-run unemployment</td>
<td>0.00515 $(0.876)$</td>
</tr>
<tr>
<td></td>
<td>(6)</td>
</tr>
<tr>
<td>Gross fixed capital formation</td>
<td>$-14.01$ $(19.68)$</td>
</tr>
<tr>
<td></td>
<td>(7)</td>
</tr>
<tr>
<td>Total hours worked</td>
<td>$-123.4$ $(83.71)$</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Part. in education and training</td>
<td>0.517 $(0.856)$</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>$42.59^{***}$ $(6.679)$</td>
</tr>
<tr>
<td></td>
<td>$37.63^{****}$ $(7.295)$</td>
</tr>
<tr>
<td></td>
<td>$42.30^{***}$ $(6.690)$</td>
</tr>
<tr>
<td></td>
<td>42.43 $(26.98)$</td>
</tr>
<tr>
<td></td>
<td>$41.67^{***}$ $(6.505)$</td>
</tr>
<tr>
<td></td>
<td>41.64^{***} $(6.426)$</td>
</tr>
<tr>
<td></td>
<td>43.06^{***} $(6.721)$</td>
</tr>
<tr>
<td>Observations</td>
<td>95 95 95 95 95 95 95</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.27 0.288 0.271 0.27 0.273 0.291 0.273</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
Table 18  The table presents cross-sectional regressions

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mafia mean index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regressors</td>
<td>(1)</td>
</tr>
<tr>
<td>Relative Mobility</td>
<td>69.17**</td>
</tr>
<tr>
<td></td>
<td>(27.02)</td>
</tr>
<tr>
<td>Economic activity rate</td>
<td>−0.319***</td>
</tr>
<tr>
<td></td>
<td>(0.112)</td>
</tr>
<tr>
<td>Secondary Education level</td>
<td>0.295</td>
</tr>
<tr>
<td></td>
<td>(0.239)</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>−28.05</td>
</tr>
<tr>
<td></td>
<td>(41.35)</td>
</tr>
<tr>
<td>Long-run unemployment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.827)</td>
</tr>
<tr>
<td>Gross fixed capital formation</td>
<td>−30.5</td>
</tr>
<tr>
<td></td>
<td>(20.35)</td>
</tr>
<tr>
<td>Total hours worked</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(80.99)</td>
</tr>
<tr>
<td>Part. in education and training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>26.90***</td>
</tr>
<tr>
<td>Observations</td>
<td>95</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.295</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. ***, **, and * denote significance of the regression coefficient at 1%, 5%, and 10%.
Table 19 The table presents cross-sectional regressions

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mafia rank index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Relative Mobility</td>
<td>164.2***</td>
</tr>
<tr>
<td></td>
<td>(51.87)</td>
</tr>
<tr>
<td>Economic activity rate</td>
<td>-0.101</td>
</tr>
<tr>
<td></td>
<td>(0.188)</td>
</tr>
<tr>
<td>Secondary Education level</td>
<td>0.506</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>18.45</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-run unemployment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross fixed capital formation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total hours worked</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Part. in education and training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>28.57</td>
</tr>
<tr>
<td></td>
<td>(17.29)</td>
</tr>
<tr>
<td>Observations</td>
<td>95</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.172</td>
</tr>
</tbody>
</table>

All results are based on the baseline sample of 5-year averages. Each cell reports the coefficient estimates and robust standard errors in the parenthesis. *** , ** , and * denote significance of the regression coefficient at 1%, 5%, and 10%.
sitory component (see e.g., MaCurdy 1982) we would expect permanent shocks (e.g., a technological shock that affects the need for unskilled workers) to affect consumption and welfare because it harder to insure against them. In contrast, we would not expect transitory shocks to affect consumption because individuals can smooth those shocks by borrowing or using their assets. In practice, however, full smoothing is infeasible due to the presence of borrowing constraints and other imperfections of credit and insurance markets. For these reasons, we consider both consumption and income inequality when we study their role in organized crime. Interestingly, we find that consumption inequality much greater impact on organized crime than income inequality.

These results shed new light on the economic explanations of the rise and spread of organized crime and suggest potential policy interventions. For example, the fact that consumption inequality seems to matter more than income inequality, suggests that what matters are differences in actual standards of living, which are better captured by consumption levels than by income levels as they depend on life-cycle decisions (see e.g. Jappelli and Pistaferri 2010 for recent trends of income and consumption inequality in Italy). This directly points out a policy response in terms of insuring adequate standard of living to the poor in order to reduce the existing disparities. The same holds for improving the socio-economic mobility, especially by improving the perspective of those lagging behind the social ladder.

Conclusions

This study investigates the linkages between organized crime and inequality and social mobility. In doing so we construct a novel dataset of organized crime at the regional level based on two complementary approaches. The first one is based on the methodology developed by Calderoni (2011) and the second one employs a dynamic factor model. Additionally, we construct a wide range inequality as well as social mobility measures. Our dataset is of general interest beyond the specific application considered in the present study. Our main finding is that higher inequality can lead to higher organized crime development: in particular, the index that better captures the effect of inequality is P90/P10. We also find that consumption inequality performs better that income inequality as the relevant inequality measure. Finally, we find that low socio-economic mobility displays a robust association with organized crime development.

This is the first study analyzing the relationship between income inequality and socio-economic mobility and organized crime. As such, it has obvious limitations. In particular, although for the results on income inequality, especially those based on GMM estimation, we can make a claim on causality running from inequality to organized crime, for social mobility we cannot. The relationship between income inequality and social mobility is a complex one, so that the dynamics of this relationship and its interaction with the emergence and spread of organized crime, together with a precise identification of the significant channels at work remains to be fully investigated. These topics are left to be explored in further research.
References


The Criminal Careers of Italian Mafia Members

Ernesto U. Savona, Francesco Calderoni, Gian Maria Campedelli, Tommaso Comunale, Marco Ferrarini, and Cecilia Meneghini

Introduction

This article draws its main results from the study of the criminal careers of Italian mafia members, which is one of the innovative studies in project PROTON. The analysis of criminal careers of mafia members covers the years from 1982 up to 2017. A long period that has allowed the researchers involved in the study to analyze the data related to the careers of mafiosi across two different levels of analysis: their internal statistical significance and the transformations of mafias in Italy. This article deals with the first level, introducing the second one in the conclusions and postponing it to a larger analysis and publication.

After outlining why the analysis of the criminal trajectories of Italian Mafiosi could contribute to the development of the theoretical framework of criminal careers, this study explains the secondary data sources used, how these data could fit with Blumstein et al.’s (1986) theoretical framework and how five of the six Blumstein parameters have been operationalized through the available data on convicted mafia offenders in Italy. The chapter follows a Macro/Meso/Micro approach, using the parameters to look at the criminal career of “Mafiosi” from different points of view: the macro level aims at identifying the overall patterns of evolution comparing them with existing knowledge on other serious offenders (section “The Criminal Trajectories of mafiosi”). The meso level compares the types of mafias “Mafiosi” belong to, exploring if and what are similarities and differences (section “Similarities and Differences of Italian mafiosi Across Their Criminal Organizations”). The micro level focuses on individuals, to examine the temporal
and spatial dimension of mafia involvement, assessing what factors influence the recruitment of mafia offenders into the organization (section “When, Why and Where Do mafiosi Enter in Their Criminal Organization?”). Discussion and conclusions follow (section “Discussion and Conclusions”), framing the results of this study in a better understanding of the criminal careers of serious criminals, as Italian “Mafiosi” are, and the mechanisms that have driven their behaviors.

Why Italian Mafiosi? What We Can Learn from Their Criminal Trajectory?

The demand for the dataset of the criminal careers of Italian mafiosi, as outlined in the next section, was originated by the assumption that analyzing all the data of Italian mafiosi convicted between 1982 and 2017 could have helped to explain the processes of recruitment of mafia members in their organizations. The necessary process of anonymization and the relevant missing values of many significant variables have moved these expectations towards two different research questions that are collateral to the issue of recruitment. The former related to how the criminal trajectories of Italian mafiosi fit with the theoretical framework of criminal career conceived by Blumstein in 1986. The second, using Blumstein’s patterns, to how these trajectories can explain the transformations of organized crime in Italy across more than 30 years. In both cases the analysis of criminal trajectories of Italian mafiosi can reveal something to researchers and policy makers for now and the future. It could help, with better data, to refine the different trajectories of mafiosi across the four criminal organizations in Italy, understanding similarities and differences, and discuss and interpret the transformations of mafias in Italy.

Merging Two Datasets: Variables and Their Robustness

This study relies on a new original dataset, the Proton Mafia Members dataset (PMM). The PMM originates from two datasets provided by the Italian Ministry of Justice: the Criminal Records Registry (Casellario dataset) and the Prison Administration Department dataset (henceforth DAP dataset). Formal agreements with the Ministry of Justice made the data available and guarantee the anonymity of all individuals in compliance with current data protection and privacy regulations. The Casellario dataset provided information on the criminal records for individuals convicted for mafia offenses between 1982 and March 2017. The dataset included

1The research team considered as mafia offenses the crime of mafia association and other offenses aggravated by the mafia method (i.e.: Articles 416bis, 416ter, 418 of the Italian Criminal Code, and special laws 575/1965, Art. 7 special law 152/1991 and Art. 7 special law 203/1991).
182,867 offenses, with detailed information on the legislative source (e.g. Italian Criminal Code), article number, and paragraph of the violated provisions. The research team classified the offenses into 31 categories according to the characteristics of the crimes. The most recurrent categories were weapons and explosives (felonies), extortion, theft, drug-related crimes (i.e. illicit drugs production, trafficking and selling), fencing, and mafia association (Savona et al. 2017a). The DAP dataset contained socio-demographic variables, arrest and imprisonment data, information related to the type mafia association (e.g. Cosa Nostra or ‘Ndrangheta), and the role that mafia members held within their group (e.g. affiliate, boss).

The PMM dataset consists of a sample (n = 11,144) of mafia members. It provides socio-demographic data, information on the type of mafia group (i.e. mafia association) and the role, as well as information on mafia members’ criminal career (Table 1). In the PMM dataset each observation is a unique alphanumeric ID. The research required several data cleaning and data transformation procedures to detect and correct inaccurate records. Data preparation included imputation for missing data to set up relevant variables for the analyses (Savona et al. 2017a). For instance, the treatment of mafia association led to a more robust variable with missing values reduced from 43% to 5%. Conversely, few other variables remained with an important amount of missing values, as the role of mafia members within their mafia group (Table 1). The research team carefully considered this aspect to assess the validity and inference of the analyses performed (2017).

The analysis of the criminal careers of Italian mafias’ members relies on the conceptual framework of the criminal career paradigm developed by Blumstein et al. (1986). A criminal career is defined as “the longitudinal sequence of offenses committed by an offender who has a detectable rate of offending during some period” (Blumstein et al. 1988, p. 2). Longitudinal data on offending throughout the life course represent the ideal data to study the criminal career of individuals (Farrington 1992). Longitudinal patterning of criminal activity can be investigated using self-report and/or official data. Despite some limitations (see Piquero et al. 2003), official records can provide precise information about the timing of offences through conviction data. This study seeks to investigate the criminal career of mafia members through the analysis of unique conviction data contained in the PMM dataset.

The analysis operationalizes five of the six parameters related to the criminal careers framework, namely: participation, duration, frequency, specialization, and escalation (Savona et al. 2017a).² In the context of offending, participation refers to “the proportion of a population who are active offenders at any given time” (Blumstein et al. 1988, p. 3). Active offenders include both new offenders and existing offenders, i.e. individuals with previous criminal convictions (see Piquero et al. 2003). The analysis of the PMM dataset led computing two different participation measures. External participation is the ratio between the number of mafia members

²The intermittency parameter was discarded, as available data prevent identification of the prison times served by mafia members.
committing at least one crime in 1 year and the resident population aged 14 and over living in the four Italian regions with a traditional mafia presence (i.e. Sicily, Campania, Calabria, and Apulia). Internal participation is the ration between the number of mafia members committing at least one crime in any year and the number of potentially active members in the PMM dataset, i.e. individuals aged between 14 and 90 in the same year. The duration of a criminal career is the “length of time that an offender continues to commit crimes once beginning an active criminal career” (Rhodes 1989, p. 3). In the PMM dataset, the duration is the time span between the first and the last recorded offence of each individual. The individual offending frequency refers to “the average number of crimes committed per year by active offenders” (Farrington et al. 2016, p. 339). Among criminal offenders, specialization

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Descriptive statistics for some variables in the PMM dataset (n = 11,144)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Statistics</td>
</tr>
<tr>
<td>Sex</td>
<td>98% are males</td>
</tr>
<tr>
<td>Country of birth</td>
<td>98% are born in Italy</td>
</tr>
<tr>
<td>Religion</td>
<td>99% are Catholic</td>
</tr>
<tr>
<td>Education</td>
<td>82% have between 5 and 8 years of education</td>
</tr>
<tr>
<td>Mafia association</td>
<td>37% belong to the Sicilian Mafia</td>
</tr>
<tr>
<td>Role</td>
<td>65% are associates, 27% underbosses, 7% bosses</td>
</tr>
<tr>
<td>Mean age at first crime</td>
<td>24.61</td>
</tr>
<tr>
<td>Mean age at first mafia crime</td>
<td>34.30</td>
</tr>
<tr>
<td>Mean age at first arrest</td>
<td>37.85</td>
</tr>
<tr>
<td>Mean number of committed crimes</td>
<td>16.40</td>
</tr>
<tr>
<td>Mean number of crime categories</td>
<td>7.34</td>
</tr>
<tr>
<td>Mean number of violent crimes</td>
<td>3.42</td>
</tr>
</tbody>
</table>

**Criminal careers’ parameter**

<table>
<thead>
<tr>
<th>Participation (internal)</th>
<th>14.29 (avg. % of active offenders committing crimes per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>14.95 years</td>
</tr>
<tr>
<td>Frequency</td>
<td>1.52 crimes per year</td>
</tr>
<tr>
<td>Specialization (diversity index)</td>
<td>0.75</td>
</tr>
<tr>
<td>Escalation by age</td>
<td>4.84</td>
</tr>
<tr>
<td>Escalation by crime number</td>
<td>15.33</td>
</tr>
</tbody>
</table>

**Most frequent categories (n = 182,867)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firearms and explosives (felonies)</td>
<td>17%</td>
</tr>
<tr>
<td>Extortion</td>
<td>9%</td>
</tr>
<tr>
<td>Mafia association</td>
<td>8%</td>
</tr>
<tr>
<td>Theft</td>
<td>7%</td>
</tr>
<tr>
<td>Murder</td>
<td>6%</td>
</tr>
</tbody>
</table>

aViolent crimes include murder, extortion, assault and violent offenses, and robbery
is “the tendency to commit the same type of crime” (Kyvsgaard 2002, p. 147). The study assessed the specialization by resorting to the Diversity index. Finally, the escalation parameter is the tendency to move to more serious offense types (Blumstein et al. 1986). The study computed seriousness by considering the average statutory penalty for each crime committed, due to missing data on the actual imposed sentences. The escalations parameter is the coefficient of a linear regression of the seriousness of the crimes on a temporal measure. Two different temporal measures were used: the escalation by age regresses the seriousness on the offender’s age, thus measuring the escalation as individuals age. The escalation by crime regresses the crime seriousness on the progressive number offence in an individual’s criminal career, focusing on the escalation as subsequent crimes are committed.

As in other studies relying on administrative data and criminal records, the operationalization of the five parameters required a long process of data cleaning. Furthermore, the measurement of the variables (participation, duration, frequency, specialization, and escalation) through available data implied complex choices that have been explained in this section. The data have been used at the best of their possibilities and, the analytical framework that follows in the next section has been chosen as the best framework for combining the phenomena analyzed, the research questions and the data, including their limitations.

The Analytical Framework: Macro, Meso, Micro Dimensions of the Criminal Careers of Italian Mafiosi

For the purpose of this study, we consider members of the Italian mafias all individuals who were convicted for a mafia offence (see footnote 1 above) and whose conviction if final according to the Italian criminal justice system. This criterion is certainly very restrictive, as it may exclude e.g. individuals with pending criminal proceedings or whose cases were dismissed due to statute of limitations. Nevertheless, the selection provides a clear threshold for delimiting the sample population. The analysis of the criminal careers of Italian mafia members relies on a three-level approach that focuses on their macro, meso, and micro dimensions.

The macro dimension analyses the whole sample of mafia members, focusing on the identification of specific trajectories through Group Based Trajectory Modelling. The goal of the first level is to identify overall patterns of evolution in the career of

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3The diversity index \((DI)\) for individual \(i\) is defined as \(DI = 1 - \sum_{m=1}^{31} p_m^{(i)} \times p_m^{(i)}\), where \(m = 1, 2...31\) are the 31 crime categories identified in the dataset and \(p_m^{(i)}\) is the proportion of offenses committed by individual \(i\) in the crime category \(m\). The diversity index can be interpreted as the probability that any two offenses drawn randomly from an individual’s set of offenses belong to two different crime categories (Piquero et al. 1999). When \(DI=0\), offender \(i\) is completely specialised on one type of crime. Conversely, a value of the index approaching 1 indicates that the offender engages in a diversity of crime categories. Given the number of crime categories identified in the dataset, the maximum value of the diversity index in this analysis is \((31-1)/31 = 0.97\).
Italian mafiosi and compare them with existing knowledge on other serious offenders. The meso dimension focuses on the different types of Italian mafias, namely, Camorra, Sicilian Mafia, ‘Ndrangheta, and Apulian mafia. Notoriously, Italy hosts several mafias which differ under many aspects. The most popular Italian mafias are the Sicilian Cosa Nostra, the ‘Ndrangheta (originating from the Calabria region), the Camorra (from the Campania region) and the Apulian Sacra Corona Unita. Each mafias has peculiar historical, cultural and organizational features (Berlusconi 2014; Paoli 2014). While Cosa Nostra and the ‘Ndrangheta are a confederation of different groups, the Camorra does not constitute a confederation: “Camorra” is the name employed to refer to independent gangs and criminal groups located in the province of Naples and in the surrounding areas (Paoli 2014). The Sacra Corona Unita was active in Apulia since the early 1980s, but the arrest of most of its members at the beginning of the current century led to its decline and to the emergence of a variety of other criminal groups currently active in the region (Direzione Investigativa Antimafia 2002; Europol 2013). Given the differences across the mafias, the meso dimension explores the possible discrepancies across the criminal careers of members of different mafias. The micro level dimension analyses the dynamics and mechanisms of mafia involvement and careers at individual level, providing information on how mafia members’ careers evolve. It can shed light on the specific characteristics of the criminal careers of mafia members driving their recruitment into the mafias.

The analyses of each dimension employed different quantitative techniques, namely group-based trajectory modelling, regression models, and statistical correlation, using the criminal careers parameters as fundamental variables in all the analyses. The analysis exploited available social and demographic variables, in addition to the criminal careers parameters calculated for each individual in the whole population. Further details on the data sources, the data cleaning and the computation of the parameters of the criminal careers are available in the research report of Project PROTON (Savona et al. 2017a).

While it is the first time that this type of analysis if conducted on the Italian Mafiosi, relying on a large and original dataset provided by the Italian Ministry of Justice, the data have a few limitations. First, the analysis focused only on final convictions, to precautionarily include only crimes whose commission was finally established by the courts. In the Italian criminal justice system, a conviction is final only when the deadline for filing an appeal in a higher court has expired, or when there are no higher courts to appeal to. The law gives the defendant and the prosecution the possibility to appeal the judgement of the tribunals, and appeal decisions can be further challenged before the Corte di Cassazione (the Italian supreme court for civil and criminal cases). This process may take several years, depending on the type of offence and the resources available to the parties. Given the seriousness of the possible penalties, mafia-related criminal proceedings are often likely to go through three separate decisions, and even more (e.g. the supreme court may quash an appeal judgement and order a new appeal trial, which might be further challenged before the supreme court). As a result, the most recent period in the sample is underrepresented as many proceedings are likely still pending. Therefore, our
results are mostly representative of the mafia members’ population convicted between the 1980s and the 2000s and have very limited application to the most recent years. Second, the PMM lacks some important information which may be useful for examining the criminal careers of mafia members. For example, there is no information about the imposed penalties for each crime and consequently it is impossible to reliably determine the prison time served by each individual. Third, the PMM does not provide data on co-offending (whether two or more criminals were convicted for the same offence), nor on the affiliation to specific mafia family or clan. Due to this lack of information it was impossible to explore the criminal career patterns in relation to the dynamics of specific criminal groups.

The Criminal Trajectories of Mafiosi

The interest over the developmental evolution of criminal involvement has attracted the attention of many scholars in the last decades. Researchers have applied Group Based Trajectory Modelling (henceforth GBTM) as the most common statistical technique for investigating individual and collective trajectories of crime across criminal samples of different nature. In a landmark paper, Laub and co-authors (1998) have relied on longitudinal data collected by Glueck and Glueck (1968) to analyze the criminal trajectories of juvenile delinquents. In their study, they have demonstrated how desistance from crime is facilitated when individuals engage in quality marital bonds, moreover highlighting how this positive influence is gradual and cumulative over time. Similarly, Blokland and Nieuwbeerta (2005) have proved how marriage and other life circumstances can have individual effects on the development of criminal trajectories over time, using a sample of Lussier (2010) and colleagues have instead focused on sexual crimes. They have studied a quasi-population of convicted adults in Quebec and detected four different offending trajectories. Their analysis stressed the difference across groups in terms of age of onset, frequency, diversity and specialization, thus contesting the idea that sex offenders have stable and linear profiles. Employing a nationally representative sample of Dutch men convicted in 1977, van de Rakt et al. (2012) have concentrated on the effects of paternal imprisonment on criminal trajectories of children, finding a mixed relationship between fathers’ imprisonment and child convictions. In fact, paternal imprisonment does not alter the shape of development of a criminal career but it alters the height of a criminal trajectory. Additionally, authors found that children whose fathers were convicted before they were 12 years old had a higher probability of imprisonments in the age between 18 and 30.

Applications of GBTM to more serious forms of crime, as white-collar crime or organized crime, is rarer. Among the few examples, van Onna and colleagues analyzed the criminal career profiles of a sample of white-collar criminals (2014), showing four different types of criminals with consistent patterns also in terms of selection offence characteristics and sociodemographic background. Van Koppen et al. (2010) investigated the existence of specific longitudinal trajectories for a
sample of 854 Dutch organized criminals. Also in this case, the study identified four distinct groups holding specific features. Both these studies shed light on the existence of late onset mechanisms for serious offenders. Specifically, Van Koppen and co-authors point out how the insufficient attention on late onset can be explained by the high attention given to youth samples in criminal trajectories literature and by the interest on high volume crime in which adult-onset is scarce. Contrarily, studies on white collar and organized crime highlight the presence of subgroups of individuals who start to engage in crime in their adult age following dynamics which Kleemans and de Poot tried to explain through the theoretical framework of social opportunity structure (2008). However, in spite of the wide interest of criminologists for the study of criminal careers over time, no research existed on the trajectories of mafia members to date. To the best of our knowledge, this is the first comprehensive analysis of the criminal trajectories of Italian mafia members.

In this study, we apply GBTM to the criminal career of Italian Mafiosi. Group Based Trajectory Modelling (henceforth GBTM) is a statistical technique that aims to detect different subpopulations that share common offending trajectories over their careers and detect significant patterns (Jones and Nagin 2013). Technically, GBTM is a specialized form of finite mixture modelling employed to analyze developmental trajectories measuring a specific outcome over certain time periods, and has been extensively applied in Criminology (see Nagin, 2016). In the present study, the outcome (i.e. the dependent variable) is represented by the number of offenses committed by an individual at a given age. Relying on the age as temporal dimension (instead of the years) allows to position all the individuals in the dataset at the same starting point. We adapted the PMM data for the use of GBTM through two strategies. First, the time-span covers crimes committed by Italian mafiosi from age 14 to age 60. Second, we censored the maximum number of offence per year setting it at 15. This figure is reasonably high, as it is close to mafia members’ average number of offences across the whole career, and allows for a correct computation of the models.

The analysis of the trajectories within the mafia members population (n = 11,144) led to the identification of five different groups that reflect distinct developmental and criminal patterns (Fig. 1). We labelled the trajectories as High Frequency Offenders (HFO), Low Frequency Offenders (LFO), Moderate Persistence Offenders (MPO), High Persistence Offenders (HPO), and Early Starters (ES).

Each trajectory group holds specific features (Table 2). High Frequency Offenders (10.33% of the sample) start early and reach their criminal peak at age 30. As
suggested by the label, they exhibit the higher frequency overall and they are also the most active in general, showing the highest average number of crimes committed. Conversely, Low Frequency Offenders report the lowest frequency and average number of crimes committed. Their criminal activity is low and almost stable for the entire course of their lives. Nevertheless, they tend to commit few but very serious offences, considering that their average seriousness is the highest overall. Moderate Persistence Offenders reach their highest criminal activity at age 28, moderately persisting over their careers. Indeed, they converge towards zero at age 50. Their
duration is above the average and they also tend to engage in crime early. **High Persistence Offenders** show a sinusoidal trend over time. The most notable feature is that they tend not to desist in the adult age: they exhibit their criminal peak at age 45, when most mafia members are not active anymore (due to desistance or incapacitation). Consequently, High Persistence Offenders have on average the longest careers, but tend to commit the least serious crimes overall. Finally, the **Early Starters** are mafia members who start their criminal careers at the youngest age. At age 23 they reach their criminal peak, rapidly followed by a steep decrease. Their trajectory converges towards the zero early (age 38), probably as a consequence of an incapacitation effect linked to the high risk of conviction that unexperienced young members face in their early careers.

The results are mostly in line with previous literature (Onna et al. 2014; Van Koppen et al. 2010). Indeed, both studies identified the same number of groups (i.e.: 4) with similar trajectories shapes, with at least one group of low frequency offenders. Moreover, an early onset group is often related to higher frequencies while low frequency offenders are associated to a later onset age. These findings point out how, regardless of the specific type of criminal activity, mafia member seem to follow developmental trajectories similar to other serious criminals. The explanation for this result may be found into future research on the underlying mechanisms that push individuals to criminal activities at certain stages of their lives.

**Similarities and Differences of Italian Mafiosi Across Their Criminal Organizations**

The research team assessed the differences across the careers of the members of the four main types of Italian mafias: the Sicilian Mafia, the Camorra, the ‘Ndrangheta, and the Apulian mafia. These four mafias differ in terms of criminal interests, organizational structure, modus operandi and reactions against the State action. Such differences might cause the criminal career of their mafia members to follow distinctive paths, thus justifying the analysis of mafia members’ criminal careers at the meso level (by type of mafia organization).

To explore whether the criminal careers of members belonging to different mafias are significantly different, the analysis relied on the **mafia association** variable. Originally, this variable was missing for 43.07% of mafia members. However, the analysis exploited information on the mafia member’s province of birth and on the region where mafia organizations are rooted to significantly reduce the amount of missing data. First, mafia organizations were grouped by Italian region.\(^6\) Second, individuals with a missing **mafia association** value but

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\(^6\)A new variable (**mafia association aggregated**) was created by grouping the different values of **mafia association** by Italian region. This resulted in five categories for **mafia association aggregated**: “‘Ndrangheta” (grouping members of ‘Ndrangheta and Other Mafias Calabria), “Sicilian Mafia” (grouping members of Cosa Nostra, Stidda and Other Mafias Sicily), “Camorra” (consist-
who were born in provinces with an established and predominant mafia group were imputed this mafia group as mafia association. For example, 99.49% of mafia offenders born in the province of Naples (and with a non-missing mafia association value) are Camorra members, while 99.67% of offenders born in the province of Reggio Calabria are ‘Ndrangheta members. 1314 mafia offenders born in Naples and with a missing mafia association value were imputed “Camorra” as mafia association, while 700 offenders born in Reggio Calabria and with missing mafia association were coded as ‘Ndrangheta members. Overall, the imputation reduced missing values from 43.07% (n = 4800) to 5.35% (n = 596), thus allowing a more robust analysis of the similarities and differences of the criminal careers of members of different mafia organizations.

The analysis of the trend in the number of offenses committed by members of different mafia organizations reveals the presence of some meso-level differences (Figs. 2 and 3). The analysis focuses on the number of crimes committed after 1982, the year in which the mafia association crime was introduced in the Italian Penal Code. In each year considered, most recorded offenses are committed by either Camorra or Sicilian Mafia members. Despite the evidence on the dimension and expansion of the ‘Ndrangheta in recent years (Ciconte 2014), crimes committed by this mafia organization represent a minor share throughout the years 1982–2016. This could be a consequence of the family structure characterizing the ‘Ndrangheta, which leads to very few pentiti and guarantees secrecy and power to this mafia organization (Serenata 2014). At the same time, the underestimation by the Italian State of the power and influence of the ‘Ndrangheta allowed its expansion abroad, especially when law enforcement authorities had their eyes on the Sicilian Mafia after the murder of two anti-mafia judges in 1992 (Ciconte 2014).

Between 1984 and 1997, the Sicilian Mafia was the mafia organization registering more final convictions, while from 1997 onwards the share of offenses committed by members of the other mafias (especially Camorra members) acquires a greater importance. This finding corroborates the view that the intensification of law enforcement action that followed the “terrorist” mafia attacks in 1992–1993 led to a decline in the power of the Sicilian Cosa Nostra (Paoli 2008). Indeed, the trend in

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7 For each Italian province where the number of mafia members born in that province was higher than 100, the relative frequencies of the mafia groups (values of mafia association aggregated) were calculated. If the relative frequency of a mafia group within a province was greater or equal than 85%, that value was imputed into a new variable named mafia association aggregated clean for all individuals born in that Italian province.

8 The sample includes n = 129,571 offenses out of the total 182,867 offenses in the PMM dataset. This discrepancy is due to two reasons: firstly, offenses committed before 1982 or with missing year are excluded from these charts. Secondly, offenses with a missing value for the mafia association variable (after the data imputation) are excluded as well.
Fig. 2 Percentage of offenses committed by mafia association (on the total number of offenses committed by mafia members, n = 129,571)

Fig. 3 Number of offenses committed by mafia association per year (n = 129,571)

the total number of offenses committed per year by the Sicilian Mafia (Fig. 3) displays a marked peak in 1991 followed by a sharp decline in the following years.9 On

9The drop in the number of crimes committed by all mafia organizations in more recent years (approximately from 2007 onwards) might be influenced by the fact that the dataset contains information on mafia members’ final convictions. In Italy, proceedings for mafia-related offenses often last many years before reaching a final judgment. For example, the analysis of the data from the
the other hand, the number of crimes committed by Camorra and Apulian mafia members exhibits a similar peak in the early 1990s but remains quite sustained in the following years.

The variables and parameters describing mafia members’ criminal careers present statistically significant differences in their mean values across mafia organizations (Table 3). Nonetheless, the distributions of the parameters in the four mafia organizations are visually very similar (Savona et al. 2017a). Italian mafia organizations share some specific features that distinguish them from other types of criminal organizations, such as the ability to control legitimate markets and the exertion of political dominion over the areas of settlement (Paoli 2014). However, the documented differences in the criminal careers of members of different Italian mafia organizations seem to underline some disparities in the criminal interests and modus operandi, which likely relate to the historical development of such criminal organizations.

Table 3 Descriptive statistics of the criminal career’s parameters and variables in the four Italian mafia organizations

<table>
<thead>
<tr>
<th>Type of mafia organization</th>
<th>Apulian mafia</th>
<th>'Ndrangheta</th>
<th>Camorra</th>
<th>Sicilian Mafia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation (internal)*</td>
<td>18.81%</td>
<td>11.17%</td>
<td>15.17%</td>
<td>13.11%</td>
</tr>
<tr>
<td>Participation (external)*</td>
<td>0.0083%</td>
<td>0.0104%</td>
<td>0.0096%</td>
<td>0.0120%</td>
</tr>
<tr>
<td>Duration</td>
<td>15.46</td>
<td>13.55</td>
<td>15.40</td>
<td>15.00</td>
</tr>
<tr>
<td>(9.81)</td>
<td>(11.46)</td>
<td>(10.55)</td>
<td>(11.09)</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>1.71</td>
<td>1.42</td>
<td>1.53</td>
<td>1.46</td>
</tr>
<tr>
<td>(1.53)</td>
<td>(1.79)</td>
<td>(2.07)</td>
<td>(2.02)</td>
<td></td>
</tr>
<tr>
<td>N violent crimes</td>
<td>2.91</td>
<td>2.16</td>
<td>3.83</td>
<td>3.78</td>
</tr>
<tr>
<td>(4.77)</td>
<td>(4.01)</td>
<td>(6.16)</td>
<td>(7.34)</td>
<td></td>
</tr>
<tr>
<td>Specialization</td>
<td>0.81</td>
<td>0.72</td>
<td>0.77</td>
<td>0.74</td>
</tr>
<tr>
<td>(0.10)</td>
<td>(0.14)</td>
<td>(0.12)</td>
<td>(0.14)</td>
<td></td>
</tr>
<tr>
<td>Mean crime seriousness</td>
<td>74.45</td>
<td>107.28</td>
<td>86.73</td>
<td>104.76</td>
</tr>
<tr>
<td>(37.59)</td>
<td>(60.09)</td>
<td>(44.89)</td>
<td>(54.92)</td>
<td></td>
</tr>
<tr>
<td>Escalation (by crime number)</td>
<td>13.90</td>
<td>10.95</td>
<td>16.85</td>
<td>16.84</td>
</tr>
<tr>
<td>(36.44)</td>
<td>(47.64)</td>
<td>(39.49)</td>
<td>(44.43)</td>
<td></td>
</tr>
<tr>
<td>Escalation (by age)</td>
<td>5.80</td>
<td>3.39</td>
<td>5.52</td>
<td>4.34</td>
</tr>
<tr>
<td>(18.36)</td>
<td>(20.80)</td>
<td>(17.51)</td>
<td>(17.35)</td>
<td></td>
</tr>
<tr>
<td>Number of individuals</td>
<td>1625</td>
<td>1710</td>
<td>3234</td>
<td>3951</td>
</tr>
</tbody>
</table>

Notes: standard deviations reported in parenthesis. *For internal and external participation, the average participation over time (1982–2016) is shown. For all the other variables, the average across individual level values is presented. ANOVA tests have been run for all the individual level variables, revealing statistically significant differences (at the 0.1 per cent level) across different mafia organizations for all of them.

Casellario shows that on average Italian courts issue definitive judgments (i.e. irrevocable sentences) 6 years after the commission of the mafia association crime.
A general analysis of the variables and parameters defining mafia members’ criminal careers in the four main Italian mafia organizations allows to grasp some of the underlying differences across these organizations. On average, Apulian mafia members exhibit the most intense criminal careers: they have the longest careers, the highest offending frequency and they are the most versatile offenders. They also display the highest mean internal participation, indicating that on average a higher share of Apulian mafia members are active offenders over the period 1982–2016. Moreover, Apulian mafia members exhibit the highest escalation by age, while Camorra and Sicilian Mafia members appear to have on average the highest escalation by crime number. Despite presenting such intense criminal careers, Apulian mafia members commit on average less serious offences compared to members of all the other mafia organizations. The Apulian mafia experienced the greatest expansion between the 1980s and 1990s, after which it faced many arrests, trials and defections, which caused it to implement a strategy of violent conflict against the State and other criminal organizations (Massari 2014). Moreover, contrary to other mafia organizations, recruitment procedures in the Apulian mafia are not based on biological-parental principles, causing offenders who seek to gain a leading role in the organization to resort to violence, murder and other coercive tools to move up the command hierarchy and maintain their position of power (Massari 2014).

The criminal careers of members of other mafia organizations seem to evolve differently. ‘Ndrangheta and Sicilian Mafia members are the most serious offenders in terms of the average seriousness of committed crimes. Compared to members of other mafia organizations, ‘Ndrangheta members have shorter careers and commit crimes at lower frequency, but the average seriousness of committed offences is the highest (despite not focusing on the perpetration of violent crimes). Their lower escalation values suggest that ‘Ndrangheta members commit more serious offences since the early years of their criminal career. On the other hand, Camorra and Sicilian Mafia members have on average more violent careers. The mean criminal career’s duration and frequency for members of the Camorra and Sicilian Mafia is close to the overall average, but the mean number of violent crimes committed is especially high.

It is hard to infer conclusions from this analysis where similarities and difference across the four criminal organizations say very little. Further exploration with more specific examination of the groups and better data may provide better insights into specific characteristics of criminal careers within specific types of mafias. Individual patterns as outlined in the next section could contribute to this analysis.

When, Why and Where Do Mafiosi Enter in Their Criminal Organization?

From a micro-level perspective, the study investigates the temporal and spatial dimension of mafia involvement, trying to determine what factors influence when and where mafia offenders enter in their criminal organization. Whereas more information is available as regards the age of entrance into the mafia organization, less
can be inferred with respect to the spatial dimension of mafia involvement. A close examination of the differences between “early recruits” and “late recruits” allows to analyze some of the factors leading to mafia involvement, thus providing an exploratory answer as to why offenders enter in their mafia organization.

In line with previous studies on organized crime offenders (Francis et al. 2013; Kleemans and de Poot 2008), the criminal career of Italian mafiosi tends to start at a quite late age compared to what has been found in samples of common criminals: on average, Italian mafia members commit their first crime at the age of 25 (median age is 22). However, their entrance in the mafia organization (marked by their first mafia association offense) usually occurs at an even later stage, being on average at the age of 34 (median age is 33).^10

At the individual level, the age of entrance into the mafia organization varies significantly across the sample. While some members join the mafias as young adults, other enter at later ages. To explore the characteristics influencing an early or a late entrance into the mafia, the sample has been divided into three groups according to the distribution of the variable for the age of entrance into the mafia. More specifically, offenders whose age at mafia entrance is lower or equal than the 25th percentile of the distribution (27 years old) are classified as “early recruits”, while offenders who entered the mafia at an age equal or higher than the 75th percentile of the distribution (40 years old) are identified as “late recruits”. Drivers of early and late recruitment are assessed through multinomial logistic regressions where the dependent variable is the categorical variable dividing the sample in “early recruits”, “late recruits” and offenders who joined the mafia at an “average” age (the baseline category) (Table 4).^11 In the first specification (the first and third column of Table 4), the included predictors are the criminal career’s parameters, the number of violent crimes committed and the mean seriousness of committed crimes. In the second specification (the second and fourth column of Table 4), the model aims to detect whether early and late recruits committed different types of crimes before entering the mafia organizations. For this purpose, the included predictors are the number of crimes committed under certain groupings of the crime categories. ^12 Moreover, all specifications include the years of education as regressor and control for the year of birth and the type of mafia association.

^10 The year of the first mafia association offence is employed as a proxy for the timing of entrance into the mafia organization. This methodological choice may present some flaws linked to the imprecision of the year of crime variable and to the possibility that mafia offenders committed some mafia association crimes at younger ages that might have gone undetected by law enforcement authorities. Nonetheless, some robustness checks relying on building time-buffers that “move” the year of recruitment to 1, 2 and 3 years before and after the year of the first mafia association crime showed that the choice of this last variable as year of entrance into the mafia organization is fairly robust (Savona et al. 2017a).

^11 Most results are robust to the change in the age limit defining “early” and “late” recruits (Savona et al. 2017a).

^12 Crimes have been grouped through a Principal Component Analysis that enabled to identify relevant correlations across the 31 crime categories and reduce them into six groupings (Savona et al. 2017a).
Table 4  Drivers of early and late recruitment: multinomial logistic regressions

<table>
<thead>
<tr>
<th></th>
<th>Early recruits (&lt;28 years old)</th>
<th>Late recruits (&gt;39 years old)</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Ndrangheta</td>
<td>−0.275</td>
<td>0.474</td>
</tr>
<tr>
<td></td>
<td>(0.251)</td>
<td>(0.226)**</td>
</tr>
<tr>
<td>Camorra</td>
<td>0.270</td>
<td>−0.047</td>
</tr>
<tr>
<td></td>
<td>(0.172)</td>
<td>(0.191)</td>
</tr>
<tr>
<td>Sicilian Mafia</td>
<td>−0.146</td>
<td>−0.455</td>
</tr>
<tr>
<td></td>
<td>(0.172)</td>
<td>(0.181)***</td>
</tr>
<tr>
<td>Mean serious. pre MO</td>
<td>−0.007</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.002)**</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Duration pre MO</td>
<td>−0.492</td>
<td>−0.358</td>
</tr>
<tr>
<td></td>
<td>(0.028)***</td>
<td>(0.014)***</td>
</tr>
<tr>
<td>Frequency pre MO</td>
<td>0.115</td>
<td>0.191</td>
</tr>
<tr>
<td></td>
<td>(0.070)</td>
<td>(0.110)</td>
</tr>
<tr>
<td>Escalation pre MO</td>
<td>0.003</td>
<td>−0.011</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.005)</td>
</tr>
<tr>
<td>Specialization pre MO</td>
<td>1.961</td>
<td>−1.588</td>
</tr>
<tr>
<td></td>
<td>(0.504)***</td>
<td>(0.442)***</td>
</tr>
<tr>
<td>N violent crimes pre MO</td>
<td>0.014</td>
<td>−0.069</td>
</tr>
<tr>
<td></td>
<td>(0.025)</td>
<td>(0.020)***</td>
</tr>
<tr>
<td>N long conviction crimes pre MO</td>
<td>0.001</td>
<td>−0.021</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.008)**</td>
</tr>
<tr>
<td>N robbery, theft and related crimes pre MO</td>
<td>0.158</td>
<td>−0.197</td>
</tr>
<tr>
<td></td>
<td>(0.016)***</td>
<td>(0.018)***</td>
</tr>
<tr>
<td>N arson and assault crimes pre MO</td>
<td>0.132</td>
<td>−0.076</td>
</tr>
<tr>
<td></td>
<td>(0.030)***</td>
<td>(0.033)*</td>
</tr>
<tr>
<td>N drug-related crimes pre MO</td>
<td>−0.119</td>
<td>0.090</td>
</tr>
<tr>
<td></td>
<td>(0.039)**</td>
<td>(0.031)**</td>
</tr>
<tr>
<td>N admin, financial, road traffic crimes pre MO</td>
<td>0.071</td>
<td>−0.035</td>
</tr>
<tr>
<td></td>
<td>(0.029)*</td>
<td>(0.013)**</td>
</tr>
<tr>
<td>N white-collar crimes pre MO</td>
<td>−0.311</td>
<td>0.170</td>
</tr>
<tr>
<td></td>
<td>(0.077)***</td>
<td>(0.054)**</td>
</tr>
<tr>
<td>N associative crimes pre MO</td>
<td>0.423</td>
<td>−0.292</td>
</tr>
<tr>
<td></td>
<td>(0.123)***</td>
<td>(0.105)**</td>
</tr>
<tr>
<td>Years of education</td>
<td>−0.075</td>
<td>−0.080</td>
</tr>
<tr>
<td></td>
<td>(0.027)***</td>
<td>(0.017)***</td>
</tr>
<tr>
<td>Year of birth</td>
<td>0.113</td>
<td>0.134</td>
</tr>
<tr>
<td></td>
<td>(0.010)***</td>
<td>(0.007)***</td>
</tr>
<tr>
<td>Intercept</td>
<td>−218.770</td>
<td>−262.035</td>
</tr>
<tr>
<td></td>
<td>(19.333)***</td>
<td>(13.258)***</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.521</td>
<td>0.475</td>
</tr>
</tbody>
</table>

(continued)
Early recruits tend to have completed less years of education compared to offenders who joined the mafia at an “average” age, while late recruits are on average more educated. This result is robust to the two different specifications reported in Table 4 and it is not driven by a temporal trend to recruit younger (and more educated) offenders, as all models control for the offender’s year of birth. The positive relationship between years of education and age at first mafia offense might have different explanations. More educated offenders may be better able to hide their criminal behavior to law enforcement authorities, which did not detect some mafia association crimes they committed while they were younger. It might also be that offenders with higher education face more career options, and thus commit to the involvement into the mafia organization at a later stage. Given that a higher education is associated with a late entrance into the mafia organization, the educational background appears to be a factor influencing the recruitment into the mafia, as suggested by other studies on organized crime (Albini 1971; Carvalho and Soares 2016; Ciconte 1992; Hess 1993; Sales 2015). This literature indicates that illiterate people from lower socio-economic background are more likely to join organized criminal groups (see Savona et al. 2017b). Official reports of Italian anti-mafia institutions also cite the relation between poor education, low economic conditions and scarce access to legitimate jobs as risk factors for youths’ involvement in the mafias (Commissione Parlamentare Antimafia 2012; Direzione Investigativa Antimafia 2002).

Two specific criminal features characterize early recruits compared to offenders who joined the mafia at an “average” age: early recruits were on average more versatile in the type of crimes committed before entering the mafia organization, and they committed on average less serious offences. Conversely, compared to offenders who joined the mafia organization at an “average” age, late recruits committed a lower number of violent crimes before entering the mafia and they were less versatile offenders. Hence, the propensity to commit different types of offences appear to be a relevant criminal feature influencing the timing of entrance into the mafia organization.

Compared to the baseline group, early and late recruits are characterized by sharp differences in the type of crimes committed before joining the mafia organization. Offenders who, before joining the mafia, committed more robbery, theft and
related crimes, more arson and assault crimes, more administrative and financial crimes and more associative crimes\textsuperscript{13} tend to enter the mafia organization at younger age. Conversely, offenders committing (before the first mafia association crime) more drug-related crimes and more white-collar crimes join the mafia organization on average at a later age.

Turning to the spatial dimension of mafia involvement, available data highlight that Italian mafia organizations are rooted in specific Italian provinces and regions. The province of birth is a strong predictor of the type of mafia organization that offenders will join: for example, of 417 offenders born in the province of Caserta (in the Campania region) and for whom the mafia association is known, 99.52\% (n = 415) belong to the Camorra.\textsuperscript{14} Moreover, the great majority of offenders (84.45\%) reside in the region of birth, thus suggesting that most offenders are recruited in the region where they were born. Nonetheless, some mafia organizations appear to be more prone to relocate their criminal activities outside the region where they are traditionally rooted. Compared to other mafia members, ‘Ndrangheta members are significantly more likely to reside in a region different from the one where they were born, while the opposite is true for Sicilian mafia members.\textsuperscript{15}

The micro level analysis of mafia members’ criminal careers highlighted that violent and versatile offenders with less years of education tend to enter the mafia organization when they are younger. Offenders are usually recruited in the province or region of birth. These findings offer valuable insights for designing specific crime prevention strategies tailored to individuals who are more likely to be recruited into the mafia.

As a complementary although separate exploration, the study explored the differences in the criminal career of mafia members before and after the recruitment into the mafias. The moment of recruitment was operationalised as the year of the first mafia association offence in each individual’s criminal career. To this aim, the analysis focused solely on the subset of individuals with sufficient and reliable information on the mafia association offenses (n = 5993).\textsuperscript{16}

As a preliminary analysis the dimensions of the criminal career (duration, frequency, specialization, escalation, number of crimes, and average seriousness) were computed for both periods before and after recruitment (Table 5).\textsuperscript{17} The statistical

\textsuperscript{13} “associative crimes” excludes the mafia association crimes, thus grouping together the crimes of “criminal association” and “drug trafficking criminal association”.
\textsuperscript{14} These statistics refer to the mafia association variable before data imputation, see Section 6 for more details.
\textsuperscript{15} These considerations arise from logistic regression models having as dependent variable the offender’s mafia association (Savona et al. 2017a, p. 227).
\textsuperscript{16} The initial 11,144 mafia members were filtered based on the number of crimes they committed, maintaining in the sample only those members who committed at least four crimes. For each member was then computed the probability that crimes with no year were the first or last crimes of the member’s career. These two passages lowered the sample size from 11,144 to 5993.
\textsuperscript{17} To test the robustness of the choice of the year of the first mafias offence as a proxy for the recruitment year, we calculated the distributions of the dimensions moving the recruitment moment backwards in time of 1, 3 and 5 years. The analyses focused on those members with information.
The significance of the differences before and after recruitment was assessed with T-tests, showing that escalation is significantly lower after recruitment and the average seriousness is significantly higher. This suggests an escalation in the criminal pattern of mafia members before recruitment, followed by more serious offenses after the recruitment moment.\(^{18}\)

The average seriousness shows an almost constant escalation in the years before recruitment, followed by an almost symmetric de-escalation (Fig. 4). A very similar situation is found by the average number of crimes (Fig. 5). These trends suggest that in the years before commission of the first mafia offence, the individuals in the sample are already engaged in criminal activity, with a slight increase in the years immediately before the mafia offence. Yet the offences’ seriousness is increasingly higher, suggesting that on average the individuals in the sample may go through a pattern of “criminal training” before entering the mafias. Surprisingly, after entrance in the mafias, the criminal activity de-escalates both in terms of number of offences and seriousness. Nevertheless, this second pattern could be biased due to the limitations of the data. For example, it is likely that investigations for mafia offences entail pretrial detention or conviction sentences. These prison time for mafia association and other serious crimes likely account for an important part of the de-escalation after recruitment. Prison time certainly reduces the offending capacity of the mafia members, which in turn depresses the average values of the population.

While the data lack detailed information on the actual detention periods, the criminal career of a given mafia member includes both years with committed crimes (active years), and years with no criminal records (silent years). To analyze the effect of the silent years on the results, a more specific test focused on the active years only.

### Table 5

Mean values of the criminal career’s parameters of mafia members before and after recruitment

<table>
<thead>
<tr>
<th></th>
<th>Duration</th>
<th>Frequency</th>
<th>Specialization</th>
<th>Escalation</th>
<th>Number of crimes</th>
<th>Average seriousness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>11.74</td>
<td>1.40</td>
<td>0.67</td>
<td>6.36</td>
<td>10.46</td>
<td>57.27</td>
</tr>
<tr>
<td>After</td>
<td>9.50</td>
<td>1.74</td>
<td>0.64</td>
<td>−5.39</td>
<td>7.74</td>
<td>82.70</td>
</tr>
</tbody>
</table>

Indeed, the after-recruitment behaviour clearly differs when analysing the seriousness over active years (Fig. 6). After increasing before recruitment and peaking about all the six different dimensions, and on the four time-buffers defined for 0, 1, 3 and 5 years. The correlation was computed, for each dimension, before and after recruitment, and across the time-buffers. Results show strong correlations on average, pointing out the robustness of the choice. Further details about the robustness checks are in (Savona et al. 2017a).

\(^{18}\)The offence of mafia association is excluded from the calculation of the seriousness, as it would have increased the average seriousness score for all mafia members.
in the year of recruitment, the average crime seriousness stabilises. Removing peri-
ods of inactivity (likely to include prison time) uncovers that the seriousness of
crimes after recruitment maintains higher levels than before recruitment. Similarly,
the analysis of the average number of crimes across active years confirms the esca-
lation before recruitment, but points up a slight increasing number of crimes after
recruitment (Fig. 7).

Given the establishment of a high level of seriousness after the recruitment
moment, the next issue to be addressed was how the number of crimes changed
(before and after recruitment) across crime categories. Descriptive statistics show
that recruitment into mafias induce a drop in some low-seriousness categories such

**Fig. 4** Average seriousness before and after recruitment, across both active and silent years. \(t_0\) represents the year of recruitment

**Fig. 5** Average number of crimes before and after recruitment, across both active and silent years. \(t_0\) represents the year of recruitment
as financial offences, robbery and theft, overcompensated by (i) the appearance of mafia association offenses, and (ii) a rise in high-seriousness categories such as drug trafficking and criminal association, and extortion (Fig. 8).

Fig. 6 Average seriousness before and after recruitment, across active years. t0 represents the year of recruitment

Fig. 7 Average number of crimes before and after recruitment, across active years. t0 represents the year of recruitment

Overall, the analysis of the seriousness and number of crimes before and after recruitment shows a remarkable escalation. Mafia members increase their offending frequency and particularly the seriousness of the offenses. The path to mafia recruitment suggests that, on average, candidates need to show their criminal skills to be admitted in the organization. Recruitment impacts significantly on mafia members’ offending patterns. The number of crimes, when considering only active years, continues to escalate, while the seriousness stabilises at high levels. Recruitment into
Fig. 8  Average number of crimes (per ID) per crime category, before and after recruitment into mafias
the mafias seems therefore to perform a catalyst function in the criminal career of the members, expanding offending opportunities both in number and seriousness. The general belief that sees recruitment into mafias as a starting point in the criminal career of a mafia member, is therefore challenged. In particular, the data present a new alternative and interesting point of view, which finds recruitment into mafias as a secure settlement point.

Discussion and Conclusions

The results of the analysis at Micro level shed light on the entire study helping to discuss its contribution to the knowledge of the criminal trajectories of Italian Mafiosi.

The first point to be discussed is how this study in general combines with the theoretical framework designed by Blumstein and colleagues (Blumstein et al. 1988; Piquero et al. 2003). Having chosen the same parameters identified by Blumstein, the question could be not relevant. On the contrary, considering that five of the six parameters have been operationalized ex post, the question becomes relevant because the data collected and used for the operationalization process have influenced the development of the study. The high level of missing information in the PMM dataset for socio-demographic variables should be considered as a general limitation to the interpretation of its results (Table 1).

Having considered this limitation and taken into account those parts of the study that rely on robust data, the answer to the first point is positive. This means that the results of this study are consistent with the general framework on criminal careers and with other studies related to the criminal careers of organized crime members (Kleemans and van Koppen 2014; Van Koppen et al. 2010; Francis et al. 2013; Fuller et al. 2019). What results is that Italian “Mafiosi” are not different in their criminal trajectories from other serious criminals as pointed out in section “The Criminal Trajectories of mafiosi”. Results presented in the other sections, exclude that Italian mafia members who have been arrested, present relevant differences with other serious criminals in the five parameters considered, confirming the validity of the conceptual framework. Considering that this study is the first to analyse the criminal trajectories of mafia members this conclusion is relevant. Same homogeneity is found when in the meso analysis (section “Similarities and Differences of Italian mafiosi Across Their Criminal Organizations”) convicted criminals are analyzed across the four criminal organizations. Marginal differences are observed in the distribution of the five parameters allowing to conclude that the seriousness of the criminal behavior of mafia members is prevalent on the existing differences among criminal organizations. It should be considered here that even if the variable “mafia Association” was present in the database with relevant missing data, this study has overcome this obstacle by creating a new variable (mafia association aggregated) following the procedure explained in footnote n. 6.

The second point is the relation of the results of this study with the main project on the recruitment of members from criminal organizations this study is part of.
Results from the micro-analysis (section “When, Why and Where Do mafiosi Enter in Their Criminal Organization?”) help to draw the picture in relation to the Italian criminal organizations. The analysis shows that early recruited members tend to have less education compared to offenders who joined the mafia at an “average” age; conversely, late recruits are on average more educated. Moving from the age of recruitment to the criminal records of offenders, that are the most robust data of the database, it emerges that early recruited offenders have committed a variety of common crimes, whereas late recruited offenders have committed more drug-related crimes and white collar crimes. Filtering these results with the impact of the five parameters, it appears that late recruiters with a better education are more specialized in mafia crimes than younger recruiters. Late recruitment, better education and crime specialization are the three components that drive the different recruitment steps in organized crime. There is a necessary caveat: smart offenders with a better education and being more aware of the risks related to mafia crimes could have avoided the conviction and be not present in the database considered.

These results have relevant policy implications for project PROTON because they can help in driving policies for curbing recruitment processes from criminal organizations. If early recruited are young, less educated, committing a variety of crimes and late recruited are more educated and more specialized in crimes committed, policies for preventing these two targets need to be different. It could be assumed that prevention policies of primary (family level) and secondary (school level) socialization could work effectively in driving young people to legitimate activities making the illegitimate ones less attractive. On the contrary, criminal policies with severe sanctions and sophisticated investigations could be more effective in deterring the recruitment of older and more educated offenders that are specialized in mafia crimes.

Targets and policies are consistent with the recent changes of Italian organized crime: declining in participation, as the results of this study show, but becoming more sophisticated in its infiltration in the legitimate businesses. The 2018 Parliamentary Antimafia Commission writes in its report that there is a common trend in all the territories and organizations consisting in the progressive reduction of violence in favor of exchange relationships in the illegal and legal markets (CPA 2018, p. 13). These are the relationships that request more sophisticated and well-educated personnel. This evolution that could be generalized for all the Italian criminal organizations is anticipated by recent investigations of mafia prosecutors. In the ad-hoc meeting on Proton project held in Milan on September 15, 2018, the general prosecutor of Naples declared that from recent investigations it becomes clear that the recent heads of Camorra organizations are legitimate entrepreneurs. Entrepreneurs have replaced old “traditional” bosses possibly because they are better able to manage criminal organization in a new environment where the exchange between the illegal and legal markets are particularly intense.

This study has analyzed the criminal trajectories of Italian “Mafiosi” providing relevant data for discussing the characteristics of those entering in the Italian criminal organizations. The results, despite some relevant missing data, have opened a window on the understanding of the mechanisms related to the recruitment processes, introducing policy scenarios that are the object of other parts of Proton proj-
ect. A more complete view to understand today’s processes could be possible combining the 30 years transformations of Italian organized crime with the policies used for combatting it. Data used by this project are a good start but additional data are needed, especially on those socio-demographic variables that have relevant missing values in this study. These data combined with criminal trajectories of Italian Mafiosi here analyzed, could produce more focused lessons for future policies against criminal organizations in Italy and beyond.

As explained in the introduction, this chapter develops a statistical analysis of the data contained in the dataset, following Blumstein’s framework. Its conclusions are in the comments to the different analyses conducted. The analysis of these data in relations to the transformations of Italian mafias is postponed to another publication, part of project PROTON. This analysis will start using the Blumstein patterns to understand and explain the transformations of mafias in Italy in the last 30 years. Linking these transformations with past and present antimafia policies could help in developing instruments and offering suggestions to mitigate and reduce the expansion of mafias, and consequently their attractiveness and potential for recruitment.

References


Investigating the Psychological Profile of Organized Crime Members

Gerardo Salvato, Maria Laura Fiorina, Daniela Ovadia, Gabriele De Maio, Elisa Francescon, and Gabriella Bottini

Introduction

Criminal behaviour is a growing worldwide public issue. Likely other human behaviours, it arises from a convergence of different factors. Many studies have highlighted the importance of the influence of neurobiological, genetics and socio-cultural factors in criminal behaviours (Glenn and Raine 2014; Salvato et al. 2014). Psychology and neuroscience gained much attention in forensic settings, and its scientific instruments may help in shedding light on the neurobiological features characterising complex behaviours.

Over the last decades, researchers have tried to explore and understand the possible link between criminal behaviour and personality traits. Personality is a multifactorial construct and refers to individual patterns of thinking, feeling and behaving. The majority of psychological studies on criminal behaviour provide evidence concerning specific classes of perpetrators or more in general, in non-organized crime (NOC) offenders. The available literature on the topic reveals that among the classifications present in the Diagnostic and Statistical Manual of Mental Disorders (DSM) (American Psychiatric Association 2013), the most prevalent in NOC criminals are narcissist, paranoid, borderline, and antisocial personality disorders (Hart et al. 1993; DeRuiter and Greeven 2000; Blackburn et al. 2003; Gunter et al. 2008; Sansone and Sansone 2009; Falk et al. 2017; Shepherd et al. 2018). Specifically, the antisocial
personality disorder is a common psychological condition in criminals that correlates with aggressive behaviour (DeRuiter and Greeven 2000; Blair 2001; Gunter et al. 2008; Falk et al. 2017). According to the DSM-5, it is characterised by inflexible, maladaptive, and persistent personality traits causing significant functional impairment or subjective distress. Antisocial offenders initiate their criminal activities from an earlier age than others and are more likely to express violent behaviours.

Interestingly, the analysis of the scientific literature reveals that only a few psychological studies have focused on prisoners involved in OC (Schimmenti et al. 2014; Craparo et al. 2018). One of the reasons could be that several penitentiary systems foresee particularly restrictive imprisonment conditions for individuals belonging to OC, which prevents any contacts with third parties (including researchers). Furthermore, these subjects are often very reluctant to any form of cooperation, including the involvement in psychological studies.

There is only one available study specifically assessing personality disorders in OC prisoners (Craparo et al. 2018). Craparo et al. (2018) have investigated the presence of personality disorders in a sample of 20 members belonging to the Italian criminal organisations Cosa Nostra (ten subjects) and Camorra (ten subjects). They have administered prisoners with the Millon Clinical Multiaxial Inventory-III (MCMI-III; (Millon and Meagher 2004)), and other tests, comparing the results between the two groups. They have shown that there were no clinically significant differences between the two groups at the MCMI-III except for the Masochism personality scores, which were higher in Camorra members.

Although interesting, this study has some limitations specifically concerning: (i) the very small sample size, and (ii) the absence of a control group of NOC criminals. In this scenario, in the current study, we aimed at investigating personality disorders in a larger sample of OC offenders compared to a NOC prisoners group, to reveal distinctive personality traits of OC members. To this aim, we administered 100 prisoners (50 OC and 50 NOC) with a psychological test that identifies the presence of specific personality disorders. Based on previous findings we expect to find masochistic and/or antisocial personality disorders in OC criminals.

**Materials and Methods**

**Participants**

One hundred prisoners were randomly recruited from two Italian Prisons. According to their legal records, we assessed 50 OC (age: $M = 48.7$, $SD = 10.2$; education: $M = 10.7$, $SD = 3$) and 50 NOC (age: $M = 46.6$, $SD = 13.4$; education: $M = 10.9$, $SD = 3.3$) male prisoners. Participants were matched in age and years of education. All participants were native Italian speakers and had normal or corrected-to-normal vision. They had no history of neurologic or psychiatric disorders. Informed consent was obtained prior to participation in the study according to the Declaration of Helsinki. The Italian Department of Prison Administration and Department of Brain and Behavioural Sciences of the University of Pavia (protocol n°010) approved the
study. All participants read and signed an informed consent form in which the aims of the study were explained.

**Tests**

Firstly, participants were administered with two neuropsychological tests assessing the integrity of the global cognitive functioning and intelligence: the Addenbrooke’s Cognitive Examination-Revised (ACE-R) (Mioshi et al. 2006; Siciliano et al. 2016), and the Raven’s Coloured Progressive Matrices (CPM) (Raven 1958).

Following the neuropsychological screening, they completed the Millon Clinical Multiaxial Inventory - Third Edition (MCMI-III) (Millon and Meagher 2004). The MCMI-III is a psychological assessment tool intended to provide information on personality traits and psychopathology, including specific disorders outlined in the DSM. It consists of 175 true-false items. It distinguishes 11 moderate personality disorder scales: schizoid, avoidant, depressive, dependent, histrionic, narcissistic, antisocial-sadistic, compulsive, negativistic, masochistic, and 3 severe personality pathology scales: schizotypal, borderline, paranoid.

**Statistical Analyses**

Data were analysed using SPSS 20 (Statistical Package for Social Science, Chicago, Illinois). As the first step, we evaluated the two screening tests to exclude participants with neuropsychological deficits that could influence the personality traits assessment. According to the tests Italian validations (Basso et al. 1987; Siciliano et al. 2016), none of the participants presented with scores below the cut-offs in the global cognitive functioning and intelligence tests. Then, we evaluated personality traits and disorders of each participant using thresholds according to the Italian validation of the MCMI-III. Accordingly, a cut-off score ≥75 for each of the personality disorder scales was used to be indicative of a probable diagnosis. For each participant, scale scores were binary classified as 0 disorder absent (score <75) or 1 disorder present (score ≥75). Then, we used a binary logistic regression to predict prisoners membership (OC, NOC) from a set of categorical predictor variables resulting from each dimension explored with the MCMI-III for moderate and severe personality disorder scales.

**Results**

We found no difference between the OC and NOC prisoners in terms of age ($F_{(1,99)} = 0.8; p = 0.382$), and education ($F_{(1,99)} = 0.1; p = 0.706$). We did not exclude any participants from subsequent analyses as they showed a normal global cognitive functioning and intelligence level.
A logistic regression analysis was performed with group (OC, NOC) as the binary dependent variable and the scales of moderate personality disorders (schizoid, avoidant, depressive, dependent, histrionic, narcissistic, antisocial-sadistic, compulsive, negativistic, masochistic) as predictors. The years spent in prison were included in the model as constant. This final model was significant (omnibus test $\chi^2(2) = 32.6; p < 0.001$; Hosmer and Lemeshow $\chi^2(8) = 8.7; p = 0.36$), and it explained 37.2% of Nagelkerke’s pseudo-variance. We found that holding the years of detention as constant, the odds of an OC prisoner being diagnosed with masochistic personality disorder were 0.25 times greater than the odds for a NOC prisoner ($Wald \chi^2(1) = 3.8; p = 0.049$; OR = 0.25; CI = 0.06–0.99); the other scales were removed from the model (all $ps > 0.05$). A second logistic regression analysis performed using the three severe personality disorder scales (schizotypal, borderline, paranoid) as predictors of membership did not reach the statistical significance.

As Craparo et al. (2018) have shown that masochistic personality traits were more likely to occur within a small group of Cosa Nostra compared to Camorra members, we checked for possible influence of the geographical origin region/OC-type organisations of our OC members showing a masochistic personality disorder. We performed a chi-square non-parametric test on geographical origin region/OC-type organisations of the OC prisoners and results did not show any statistical prevalence of a geographical region/OC-type organisations ($x^2(3) = 1.2; p = 0.753$).

**Discussion**

Understanding the personality profile of OC members is a crucial factor that may help in identified tailored rehabilitative treatments and policymakers in devising effective prevention policies. In the current study, we explore the personality traits specifically distinguishing the OC from NOC prisoners. Results showed that masochistic personality disorder was more likely to occur in OC than NOC prisoners. Our findings expand and substantiate very recent evidence, in which masochistic personality traits have been found in a small group (ten participants) of the Cosa Nostra members (Craparo et al. 2018). In our case, we did not find in the OC group presenting with a masochistic personality disorder any influence due to the specific prevalence of Mafia-type organisations or prisoners’ region of origin in our sample. One might speculate that the partial discrepancy between the current study and the Craparo and colleagues’ work (2018) may be due to the very small sample of prisoners that they assessed.

From a psychological point of view, masochistic behaviours have multiple determinants. As suggested by Gabbard (2012) one of such determinant may relate to active mastery over passively experienced trauma. Individuals who have masochistic personality disorder may recreate abusive and humiliating experiences that they have endured in the past but from the driver’s seat point of view. Throughout this unconscious reiteration, they avoid being ambushed by it.

Moreover, from their point of view, the relational attachment to an abusive or sadistic person may be better than having no relationship at all (Gabbard 2012).
As suggested by Schimmenti et al. (2014), OC members have to adhere, be submitted and obedient to the willingness of their boss (Schimmenti et al. 2014). The finding of masochist personality disorder in OC members appears to be coherent with the framework of the organization. It is also important to note that we investigated the behavioural profile of OC members pertaining to the low-hierarchy of the organization so that such results should be considered as selectively concerning these subjects that typically serve the organization as passive executors rather than strategic operators.

Being obsequious and incline to sacrifice, encouraging others to take advantage of this, is typical of the masochistic profile (Millon et al. 2009). This psychological profile shows several ideal features for the OC that imposes hard rules and rigid behaviours to be applied to its members. The OC members are bound by commandments based on mobster guidelines. These rules include “professional” and “private” aspects. A good example is the 5th commandment saying: “Always being available for Cosa Nostra is a duty – even if your wife is about to give birth” indicating the imposition of absolute obedience to the organization. This kind of subjection is typical of the masochistic profile. These written guidelines have also been defined to control and rein the rebel behaviours of the younger Mafiosi. The rite of Mafia initiation is based on a sort of religious communion defined by obligations and rules of correctness and solidarity and are sealed by the condition of suffering.

It is also important noticing that some caution should be paid in interpreting results from the current study. The question arises of whether the association with an OC group would shape the behaviour, or the individual must have some innate personal characteristics to be associated with an OC group. Misuse and misunderstanding concerning the role of psychology and neuroscience in criminal evaluation have been largely discussed (Gazzaniga 2011; Bottini et al. 2015; Morse 2018). A specific psychological/behavioural characteristic does not justify and explain in an exhaustive way the criminal behaviour or a predisposition for an individual to become a criminal. Instead, both innate factors (genetic heritability), environment, and the interplay between the two would contribute to the development of individual behavioural characteristics, also involving mental health and cognition (Plomin and Asbury 2005), so that genetics and specific environmental triggers are required for a mental disorder to develop.

To conclude, OC members may present with some specific personality traits, which presumably arise from the interaction between innate factors and the environment. Further studies are needed to explore the neuropsychological/cognitive profile of OC members that together with the psychological structure may contribute to delineate an increasingly detailed cognitive-behavioural picture of OC criminals.

References


Introduction

As demonstrated by the analysis of mobile bandits in the eighteenth century (Blok 2001) or Italian mafia families that evolved in the nineteenth century (if not earlier; Paoli 2004), organised crime is not a new phenomenon. Nevertheless, only in the past decades the topic of organised crime has been researched more systematically. This research led to new insights into involvement mechanisms and criminal trajectories in organised crime. For example, Van Koppen, De Poot, Kleemans, and Nieuwbeerta (2010) demonstrated that, unlike high volume crime offenders, organised crime offenders are generally older and have a later onset of offending (see also Van Onna, Van der Geest, Huisman and Denkers (2014)). Researchers have also shed light on factors that stimulate people to engage in organised crime, like deviant group morals and financial setbacks (e.g., Kleemans and De Poot 2008; Kruisbergen et al. 2012; Van Koppen 2013). Moreover, while positive life events, like having a job and being married, are often considered to have a desisting effect on engagement in high volume crime, Kleemans and De Poot (2008) noted that positive life events not always lead to desistance from engagement in organised crime. On the contrary, family ties and jobs could in fact promote involvement in organised crime. Jobs and family provide the social structures allowing criminals to find potential co-offenders. Jobs could also facilitate organised crime activities if the jobs encompass a relatively high level of autonomy, mobility, or status (Kleemans and Van de Bunt 2008).
Research regarding involvement mechanisms and criminal careers in organised crime has thus demonstrated that factors related to engagement in crime differently affect organised crime offenders as compared to high volume crime offenders. Even though a clearer picture of involvement mechanisms and criminal trajectories in organised crime is now emerging, Von Lampe (2012) notes several aspects of organised crime research that deserve more scrutiny. First, Von Lampe states that most research on transnational organised crime focuses on destination countries, whereas the nature of criminal groups and activities in source and transit countries has been less studied. Second, Von Lampe elaborates that in-depth analyses of the modus operandi of criminals and the logistics of transnational organised crime activities are the exception rather than the rule. Finally, Von Lampe explains that if coherent theoretical frameworks are to be developed, researchers have to compare different aspects of organised crime across different contexts (e.g., contexts defined by type of crime). In order to do so, however, researchers have to examine clearly demarcated contexts rather than general categories that encompass a diffuse range of different types of crime.

The present study addresses each of these points by studying transnational organised crime in the Netherlands. The analyses specifically focus on one type of organised crime, namely drug trafficking, and highlight the context of one important logistical node, namely airports. Airports are pivotal in the free flow of goods and citizens across the world, but they are also a crucial facility for transnational organised crime. The Netherlands functions in this context as an important transit country (Kleemans 2007). Transit crime can best be described as international illegal trade. Although knowledge on organised crime offenders engaging in transit crime has accumulated recently, systematic analyses of offenders operating on logistical nodes are still rare. This chapter offers such analyses. The empirical data consists of 16 cases of the Dutch Organised Crime Monitor. Although the main analyses focus on organised crime at airports (11 cases), organised crime at seaports (5 cases) is analysed as well in order to compare the logistics and involvement mechanisms at the airport with the seaport.

This chapter is structured as follows: First, a brief overview of the current state of the literature on involvement mechanisms in organised crime is presented and the main logistical nodes in the Netherlands are described (section “Becoming Involved in Transit Crime”). Then, the data and methods used for the analyses are outlined (section “Data and Methods”). In the results section that follows (section “Empirical Results”), the results of the analysis of smuggling methods employed by organised crime offenders and the logistics of their activities are first presented. Subsequently, the results are presented of the analysis of involvement mechanisms and the social and occupational embeddedness of the criminal careers of the same offenders. The chapter concludes by highlighting the main findings and discussing several dilemmas air- and seaports face in the prevention of organised crime (section “Conclusion and Discussion”).
Becoming Involved in Transit Crime

In this section, involvement mechanisms in organised crime are first discussed. Five general types of involvement mechanisms are explained and exemplified. Specific job characteristics that increase the likelihood of becoming involved in organised crime are discussed as well. The second part of this section elaborates upon the nature of organised crime in the Netherlands as well as two settings that are highly relevant to organised transit crime, namely the main airport in Amsterdam and the main seaport in Rotterdam. In the third part of this section the process of international drug trafficking is described using crime script analysis.

Involvement Mechanisms in Organised Crime

The social and occupational embeddedness of organised crime provide important clues on how people become involved in organised crime. Five established involvement mechanisms are: Social ties, work ties, deliberate recruitment, leisure activities and sidelines, and life events (Kleemans 2012). Social ties are an important factor for becoming involved in organised crime. In the world of organised crime, no formal mechanisms such as the law or third-party insurances exist to consolidate trust if transactions do not work out as planned. Criminal groups operate in a hostile and uncertain environment and, as often argued in organised crime research, therefore need other mechanisms to consolidate trust (Van Lampe and Johansen 2004). Kleemans and Van de Bunt (1999) argue that social bonding is a solution to this problem because of the temporal and network embeddedness. Temporal embeddedness of social ties implies that the likelihood of cheating decreases when offenders know they will meet each other in the future and have information about each other’s past. Network embeddedness implies that group members have information about one another and that they have a reputation to uphold in their network. Temporal and network embeddedness of social ties also apply to work ties at the workplace. Colleagues see each other regularly and have to work together for a longer period of time. Furthermore, colleagues form a network in which information about one another is easily shared. Colleagues therefore have a reputation to uphold which facilitates trust in the long run. The same line of reasoning could be applied to persons who frequently meet because they, for example, practice the same sports, have the same hobby, or visit the same pub (Van de Bunt and Kleemans 2007). While criminal group members sometimes recruit specific persons due to their connectedness, another reason to recruit specific persons is that they possess specific knowledge or skills valuable to the criminal group. Such deliberate recruitment could also be aimed at persons who are in a vulnerable position, for example due to negative life events such as financial setbacks. Negative life events at a later age are known to increase the likelihood of people becoming involved in organised crime (Kleemans 2012). Positive life events could also increase the likelihood of
becoming involved in organised crime by creating more possibilities for involvement. Examples of positive life events increasing the likelihood of involvement are getting married and becoming employed.

Legitimate jobs of organised crime offenders are often characterised by one or more of the following factors: autonomy, mobility, and frequent social contact (Kleemans and Van de Bunt 2008). The more autonomy a person has, the less he or she is directly supervised, and the easier it is to engage in organised crime activities. In a similar way, the more mobile an employee is, the harder it is to directly supervise him or her, and thus the easier it is to engage in organised crime activities. A high level of autonomy and mobility both make it easier to conceal criminal activities by making it appear as if these activities are part of licit duties. Truck drivers are, for example, very mobile. So when they transport drugs, they do not immediately raise suspicion because drug transports look very similar to licit transports. Finally, jobs involving frequent social contact increase the likelihood of criminal group members connecting to potential offenders. This is the case for, for example, shop owners, doorkeepers, and market traders. Employees who are very mobile or have a highly social job are also more likely to frequent so-called ‘offender convergence settings’ (Felson 2006). These settings are places where offenders meet potential offenders and start criminal activities together, such as cafés and casinos (Le and Gilding 2014). Offender convergence settings demonstrate that the place where people work also affects the chance of them becoming involved in organised crime. Because organised crime in the Netherlands often encompasses transit crime, persons working at logistical nodes in the Netherlands could be of great interest to organised crime groups. The most important logistical nodes in the Netherlands are described in the next paragraph.

**Transit Crime and Logistical Nodes in the Netherlands**

Many types of organised crime in the Netherlands can be described as transit crime. Transit crime mainly involves international illegal trade and uses the same opportunity structures facilitating legal economic activities (Kleemans 2007). The major businesses of organised crime groups in the Netherlands boil down to international smuggling activities. In these activities, the Netherlands could function as a destination country, a transit country or, in the case of cannabis and synthetic drugs, a source country. In its function as a transit country, the Netherlands is an important ‘hub’ for the distribution of drugs to the rest of Europe. Recent reports of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) demonstrate that cocaine import into Europe mainly takes place through Spain and Portugal in the south and through the Netherlands and Belgium in the north (EMCDDA 2016). The Netherlands is also an important source country for synthetic drugs such as MDMA and amphetamines since a lot of know-how on the production is available in this country (EMCDDA 2015). The significance of the Netherlands as a transit point, or starting point, for drug traffickers relates to its demographical,
geographical and logistical characteristics (Kleemans 2014). Due to its colonial past and government policies in the 80s and 90s, the Netherlands has a relatively large number of inhabitants with roots in countries or regions where drugs such as cocaine, heroin, and hash are produced on a large scale. Because of their roots, these inhabitants are often better able to connect to these countries or regions and can therefore be the key between foreign-based crime groups and crime groups based in the Netherlands. In other words, their roots enable them to bridge ‘structural holes’, i.e. to form a connection between (parts of) networks that would otherwise be poorly connected due to geographical and social barriers (Burt 1992). For example, Turkish persons are generally better able to connect to Turks in Turkey than Dutch persons with no foreign roots. If a criminal group residing in the Netherlands wants to import heroin from Turkey, a person well-connected to both the Netherlands and Turkey is very valuable to that group. Finally, because of its geographical position, the Netherlands is sometimes considered the gateway to Europe. Two important logistical nodes contribute to the gateway-function of the Netherlands, namely the main airport and seaport. These logistical nodes are discussed next.

**Amsterdam Airport Schiphol**

Amsterdam Airport Schiphol is the largest airport in the Netherlands and one of the largest in Europe, with approximately 58 million passengers and 1.6 million tonnes of airfreight being processed in 2015 (Schiphol 2017). While its enormous processing capacity and its connectedness to other parts of the world make Schiphol crucial to the Dutch economy, these factors also make exploitation of the airport attractive to criminal groups. Because such large volumes of persons and goods are processed, not all passengers and airfreight can be thoroughly checked, thereby facilitating cross-border drug transports. Several security measures have been put in place, however, in response to large-scale drug trafficking at Schiphol. For example, in 2001, security checks of personnel working at the airport increased. Before the implementation of security checks, personnel going from land- to airside and vice versa could relatively easily smuggle drugs. Due to the implemented security checks, luggage of personnel had to pass similar security procedures as luggage of passengers. Another example concerns the so-called ‘100%-checks’ that have been enacted since 2003 to tackle the increasing flow of drug mules smuggling cocaine into the Netherlands (Kruisbergen 2005). All passengers and their luggage on flights from specific countries have to pass extra security checks. Furthermore, international cooperation resulted in security measures overseas, i.e. pre-boarding checks at Hato International Airport on the island of Curacao (part of the former Netherlands Antilles) (Kleemans et al. 2010).¹

¹This does not mean that every passenger is subjected to exactly the same type of checks (Van Haaften 2013, p. 2).
Port of Rotterdam

The Port of Rotterdam is one of the largest seaports in Europe. Just like the main airport of the Netherlands, the Port of Rotterdam is an important hub for organised crime groups (EMCDDA 2016). Between 2009 and 2012, approximately 40 tonnes of cocaine entering the Port of Rotterdam were seized (Eventon and Bewley-Taylor 2016). In 2013, the Dutch police estimated that a quarter to half of the cocaine consumed in Europe enters via the Port of Rotterdam (Van der Ploeg 2014). Similar to the airport, the seaport has several security systems in place aimed at detecting illicit traffic. For example, sea containers are randomly scanned and shipping-agents have to show certain documents before they can operate in the port.2

International Drug Trafficking: A Short Crime Script

The accumulation of knowledge on topic of drug trafficking through both scientific research and federal investigations has made it possible to discern several key procedures in the process of drug trafficking. In so-called crime scripts, these sets of action are schematically organised in a chronological framework (Cornish 1994). In other words, crime scripts clarify what occurs before, during, and after a crime is committed. Such scripts also encompass actors, equipment and locations required for crime commission. Even though different crime groups could use different equipment or locations, or change their modus operandi in response to police interventions, the flexibility of crime scripts allows for such improvisations. One of the benefits of crime scripting is that it makes the different steps in the process of crime commission easier to examine (Chiu et al. 2011). By doing so, crime scripting aids situational crime prevention, which focuses on environmental aspects that facilitate crime rather than on personal characteristics of perpetrators (Clarke 1997). As for international drug trafficking, a typical crime script classified into four main activities is exemplified in Table 1 (Tompson and Chainey 2011). The content of this crime script is based on the results of analyses of cases of the Dutch Organised Crime Monitor (see also section “Data and Methods”).

Drug traffickers using logistical nodes such as an airport or seaport face several challenges. For example, because of the large volume of passengers and cargo processed criminal groups have to know exactly at what time and place “their” mule, luggage or container arrives. Furthermore, they have to make sure that their contraband passes security checks safely. To this end, they often need insider’s help. Criminal groups could corrupt law enforcement personnel in order to evade security

2A specific modus operandi employed by organised crime groups is the ‘rip-off’ (Eski and Buijt 2016). Characteristic of a rip-off is that criminal groups transport drugs to other countries by using sea containers ordered by legitimate companies as their transport vehicle. Sea containers are transported as ordered by the legitimate companies and upon arrival, the criminal group takes out the drug packages before they or the packages are noticed.
checks or they could corrupt port employees to provide them with information about the arrival of sea containers with drugs. Organised crime groups are thus sometimes dependent on involvement of employees working at logistical nodes. But how do these employees become involved in organised crime? The logistical bottle-necks drug traffickers have to solve (step 3 and 4 in Table 1) as well as the involvement mechanisms explaining the participation in organised crime are further elaborated in section “Empirical Results”. First, however, the data and methods used are discussed in section “Data and Methods”.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>International drug trafficking crime script</th>
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<td>Main activity</td>
<td>Key procedures</td>
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<tr>
<td>Preparation</td>
<td>1. Acquiring drugs</td>
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<td>Pre-activity</td>
<td>2. Transporting drugs to a logistical node</td>
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<td>Activity</td>
<td>3. Getting drugs on board (on the vehicle)</td>
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<td>4. Getting drugs off the vehicle</td>
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<td>Post-activity</td>
<td>5. Transporting drugs to destination</td>
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<td>6. Stashing drugs</td>
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<td></td>
<td>7. Selling drugs (sometimes after further refinement)</td>
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<td></td>
<td>8. Handling financial flows</td>
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Data and Methods

For the present study, a selection of cases from the Dutch Organised Crime Monitor (OCM) is used. The OCM is an ongoing research project since 1998 aimed at gaining insight into organised crime in the Netherlands. The main sources of this research project are files of closed Dutch police investigations of criminal groups engaging in a wide variety of criminal activities. All cases in the OCM result from long-term police investigations, often spanning a period of several years. The police files constitute a rich source of data and include, amongst others, the results of special investigation techniques (e.g., wiretapping and observation) and transcripts of suspect interrogations. These files are systematically summarised using an extensive checklist that has expanded throughout the years (Kruisbergen et al. 2012).

From a total of 180 cases in the OCM, a subset of sixteen cases was selected for the purpose of this study. Because the focus of this study is drug-related organised crime at major transit points in the Netherlands, all drug cases were initially selected.
Subsequently, cases in which the airport or seaport(s) played no role, or only a minor role, were filtered out. Other criteria employed to select cases were the richness of information with regard to trafficking operations as well as the recency of the cases. Eleven cases concern drug trafficking through Amsterdam Airport Schiphol (passenger as well as cargo air transport), five cases concern drug trafficking through the seaport of Rotterdam and/or other seaports in the Netherlands or neighbouring countries.

The 16 cases together include 286 offenders. The smallest case includes four offenders, the largest case includes 49 offenders. Four cases involve less than 10 suspects, seven cases involve 10–20 suspects, and five cases involve more than 20 suspects. The majority of offenders (90%) are male. In only one case, the main suspect was female. The timeframe in which the police investigations started ranges from 1991 up to 2012.

As for the nature of the criminal activities, in 12 cases cocaine was imported from South America to the Netherlands. In five cases XTC (‘ecstasy’) was exported from the Netherlands to other countries, such as England, Australia, and the United States of America. In two cases other drugs than cocaine and XTC were transported as well.3

To analyse the logistics of organised crime activities, information regarding the modus operandi of criminal groups was gathered from the cases. To analyse the occupational and social embeddedness of organised crime activities, information on topic of jobs, the legal workplace, and social relationships were gathered. All information was subsequently categorised. Examples of categories are the type of airport personnel involved, the type of smuggling method employed, and the reasons offenders gave to smuggle drugs. The analyses focused primarily on the airport cases. The seaport cases were used to enrich the data. Important differences in results between the airport and seaport are discussed separately.

The remainder of this chapter is structured as follows: First, a brief overview of the criminal structures is provided. Furthermore, the logistics of criminal activities are discussed. Subsequently, the occupational and social embeddedness are discussed as well as personal reasons for offenders to become and stay involved in organised crime. Finally, a list summarising the involvement mechanisms is provided after which the chapter concludes with a general conclusion and discussion.

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3 Please note that these numbers do not add up to 16 because in several cases the suspects transported more than one type of drugs.
Empirical Results

**Short Description of Criminal Networks**

The criminal structures encountered in the studied cases are best described as criminal networks consisting of smaller criminal groups. Separate groups often had their own trade, but co-operated with other groups if it helped them in their trade. The following three cases exemplify differences in network structures.

- **Case 1**: several groups worked together, sometimes on ad-hoc basis, sometimes more structurally. Each group had a core with co-offenders surrounding the core members. Most group members were related through family ties.

- **Case 2**: two separate groups could be distinguished. Each group had a leader. Only the leaders and other high ranking members in each group communicated with each other. The two leaders, a man and a woman, once had a romance. The romance began after the woman moved in with the man. After she became involved in his drug trade, she involved her own family members as well, which is how the second related group came to exist.

- **Case 7**: two criminal groups were initially one criminal group as nearly all members in the network were employed in the same team of cargo handlers. After a fight between two important members, these members refused to work together any longer and split up the network in two distinct groups. A few members of the groups remained in touch, however, to communicate about criminal activities.

In most cases, members had several different types of tasks. For example, a member could have executive tasks and coordinating tasks or more managerial tasks. Most groups also had a leader or multiple leaders. Suspects knew their place in the group. In groups that were largely based on family ties, the oldest family member in the group was usually in charge.

**Logistical Bottlenecks: Getting the Drugs Through**

In this section, the logistics of drug trafficking operations at the airport are described. Central to this section is the question how drugs can be smuggled across country borders without the smugglers getting caught through security checks. Three types of tactics to traffic drugs without getting caught are discerned: (1) defying security checks, (2) avoiding security checks, and (3) neutralising security checks. When criminal groups attempt to defy security checks, they do pass security checks but hope not to get caught by using a method of concealment (swallowing drug capsules, for example). This can be done, in principle, without the help of corrupt airport personnel of private companies or law enforcement officers. When avoiding security checks, smugglers do not pass security checks at all, but rather circumvent them. The avoiding tactic is facilitated by airport personnel of private companies,
such as cargo handlers, who abuse their privileges to ensure that a package containing drugs can leave the airport without having to pass normal security procedures. While avoiding tactics aim at simply circumventing the security checks, neutralising tactics directly target law enforcement officers performing security checks. Customs or other law enforcement officers are bribed so the package passes the ‘checks’. Before these tactics are discussed in more detail, a remark has to be made with regard to the scope and limitations of our analyses. First, due to the sensitivity of the topics discussed, examples of smuggling methods will be described with a limited level of detail. Second, discussion of a specific smuggling method does not imply that it is (still) an effective smuggling method. Although some offenders are very innovative in their use of smuggling methods, some methods might be rather dangerous (i.e., there is a high chance of detection). Furthermore, certain smuggling methods discussed, either techniques to hide drugs or the abuse of privileges by airport personnel, might now be rendered less effective because of new or increased levels of security measures.

Defying Security Checks

The most common method to defy security controls was the use of drug mules. Drug mules were used in eight cases. In four out of eight cases, drug mules swallowed drug capsules. In each of these four cases, the criminal group tried to smuggle drugs into the Netherlands. In six out of eight cases, drug mules carried luggage with drugs into the plane with them. In two cases, the criminal groups deployed both mules that swallowed drug capsules and mules that carried luggage with drugs. Sometimes criminal groups simply hoped that their mules would not be checked and considered a caught mule as a business risk (case 6). Other criminal groups took precautions to try to prevent the drugs from being noticed on scanner images.

Methods aimed at security scanners were employed to defy security checks in six cases. For example, in case 10, drug mules swallowed coins in order to try to hide the drug capsules they swallowed when going through a scanner at the airport. Air freight in which drugs was hidden was frequently tampered with so as to make the packages appear normal when passing security scanners. For example, in case 3, carbon paper was used in boxes filled with drugs intended to make the boxes appear empty when going through a scanner. To send larger batches of drugs, criminal groups hid drugs in larger machines. To make transportation of these large machines appear legitimate, criminal groups registered front companies, so they could send or receive the products in name of the company.

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4 In several cases different tactics are used.
Avoiding Security Checks

Security checks were mostly avoided by people working at the airport, such as cargo handlers and technicians, who (ab)used their job-related personal credentials and privileges for drug trafficking. For instance, in four cases, computer systems were exploited to find flight details and, if a drug mule had been arrested, passenger details. Flight details were consulted to acquire information about, amongst others, at which time flights with drugs mules and drug packages would arrive, and in which container the luggage was placed. Passenger lists were consulted to ensure that a drug mule had indeed been arrested and had not just run away. When employees did not have access to a computer system, other employees with log-in credentials helped them out.

Also in four cases, the criminal group exploited vehicles of companies operating at the airport to transport packages and luggage with drugs. With these company vehicles, they could drive discretely from the airplane or basement to other places at the airport where they would hand over the package to a co-offender, or even drive off the airport.

Case 9: Suspect A was employed by company E and could therefore use company E’s vehicles. A drove with these vehicles on both landside and airside. Suspect B worked at the airport for another company, but was not able to use their vehicles at the airport. Therefore, B was asked to monitor the airport area while A left the airport area with drugs hidden in a vehicle from company E. Once A had left, B left the airport area as well. Together they drove to another location where they transferred the drug packages from company E’s vehicle to B’s car.

People working at the airport also abused their security badge for criminal purposes. The abuse of a personal security badge occurred in six cases. A personal security badge is provided to employees working at the airport so they can move from one section to another in order to carry out their duties. However, this freedom
of movement also provided employees with many opportunities to engage in criminal activities.

Another recurring method to avoid security checks was the manipulation of luggage labels. In case 9, manipulated labels were sent to exporting countries where the labels were attached to luggage with drugs. Upon arrival in the Netherlands, cargo handlers could then easily pick up the luggage.

Most of the studied criminal groups searched within their social network for persons with job-related privileges at the airport in order to avoid security checks. However, the criminal group in the following case ensured that her members acquired job-related privileges by establishing a company of their own at the airport.

**Case 11:** Cleaning company D was owned and run by suspect G and his son H. With their company, they acquired the same privileges as other janitors working at the airport. They abused their access to airplanes and information systems of the airport. G was also in touch with different criminal groups that wanted to use (criminal) services offered by G’s company. Furthermore, if drug packages had to be stored safely at the airport, G sometimes hired other persons working at the airport for 600 euros.

Next to abusing job-related privileges and credentials, criminal groups also exploited the (technical) complexity of airplanes to avoid security checks. In two cases (2, 11), drugs were smuggled across borders by hiding drug packages in the airplane. The exporting group made sure the drugs were well hidden in the airplane and sent instructions to the importing group about where to find the drugs. Sometimes “line testing” was done by hiding a distinct object in the airplane that was to be found by the importing group. Line testing had two purposes. First, by retrieving the object, the exporting group knew that the instructions were received and correctly interpreted by the importing group. Second, the exporting group was ensured that the importing group could actually get the object out of the airplane without getting caught. The necessity of line testing and the complexity of airplanes are best illustrated in case 2 where even the police could not find the packages with drugs hidden by the exporting group:

**Case 2:** Janitors on Curacao hid drug packages in the airplane. The first time, however, the importing group could not find the packages because they were looking in the wrong place, just like the police. Subsequently, the janitors on Curacao planned to send a teddy bear as a test to see if the importing group could find the bear.

The criminal group in case 7 hid luggage with drugs in airfreight containers. Because airfreight containers are relatively large and therefore have a lot of storage
space, the importing group received instructions from the exporting group about where the luggage with drugs was to be found. Finally, criminal groups also attempted to transport drugs away from the airport area at the moments of which they believed activity of security personnel was low.

Case 9: Suspect J told the police during an interrogation that luggage with drugs was often transferred at specific times, because “you knew when there were customs officers”. If luggage with drugs would arrive at an inconvenient moment, then the luggage would be stored for a while. Storing luggage was avoided at places with a lot of sniffer dogs.

Neutralising Security Checks

Security checks could be neutralised by corrupting customs or other law enforcement officers at Schiphol or at the airport of the source country to let drug mules pass through security checks. Available information in several cases indicates that corrupted officers might have been involved. For example, in one of the cases an arrestee testified that customs officers received pictures of the mules beforehand so the mules would be recognised during security checks. Having contacts within customs, however, does not guarantee a “smooth” operation, as some cases involve disagreement on the amount of money a corrupted officer should receive.

Differences Between Airport and Seaport

The results regarding the modus operandi of criminal groups discussed so far apply largely to both the airport and seaport. However, differences were also noted between countermeasures deployed to defy or avoid security checks at the airport and countermeasures deployed at the seaport. These differences largely pertain to the difference in general use of the ports. The main function of the seaport is facilitating the flow of goods and not the flow of persons. Conversely, the airport has to process an enormous amount of persons next to processing enormous volumes of goods.

First, drugs were frequently transported by drug mules in airport cases. However, in seaport cases, investigative units only uncovered drug transports in which drugs were covered up by deck cargo or hidden in sea containers. In none of the seaport cases persons were caught carrying drugs with them, even though in at least one seaport case corrupted personnel sailing across the sea was discovered. Because there is no (large) intercontinental flow of persons at seaports such as the ones in

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5 Although some cases include information that civil servants, such as customs or police officers, might be involved, the cases often lack sufficient information to prove such involvement.
Rotterdam or Antwerp, criminal groups operating at seaports have to rely more on the flow of goods. Therefore, secondly, criminal groups using seaports more often used (front) companies to have a legitimate reason to hire sea containers or to legitimise container transport.

**Required Skills and Assets**

The results so far demonstrate that criminal groups mostly relied on either drug mules or on job-related credentials, privileges, and knowledge to defy or avoid security checks. For example, because airplanes are technically complex, group members need to be familiar with the construction of airplanes to know where to hide drug packages. They need to know what places are large enough to store the packages and are relatively easy to open up without causing noticeable damage. If criminal groups attempt to traffic drugs in luggage without accompanying passengers, they need members who can get hold of this luggage and transport the luggage from airside to landside. In this case, the group needs members with privileges which only people working at the airport have. In brief, most personal assets required to traffic drugs at the airport are job-related assets of people working at the airport. The role of these job-related assets, or more generally, the occupational embeddedness of organised crime activities, is discussed in the following section.

**Occupational Embeddedness**

How do jobs facilitate organised crime? Kleemans and Van de Bunt (2008) argue that certain jobs bring persons in a better position to contribute to organised crime activities. Legitimate jobs of persons engaged in organised crime are often characterised by a relative high level of autonomy and mobility. Jobs with a high level of autonomy are often found in, amongst others, companies aiming to deliver quick services. Their workers are provided with a high level of independency and less supervision, like janitors (at airports) and truck drivers. Truck driving is also a typical example of jobs with high mobility, which makes truck drivers more suitable to transport illegal goods without raising suspicion. When individuals become involved in organised crime, it is likely that their criminal activities relate to their legal jobs. For example, a truck driver transporting legal products can easily (also) transport illegal products. Besides, the truck driver could use his or her practical knowledge and contacts from his or her legal activities as well (Van de Bunt and Kleemans 2007; Kleemans and Van de Bunt 2008). Not only do jobs provide the logistics and social contacts to contribute to organised crime, having the same job also increases trust amongst co-offenders since they know about each other’s reputation. Furthermore, they can keep an eye on each other when working together (Kleemans and Van de Bunt 2008). How job-related factors affect engagement in organised crime is discussed in this section. The following five factors are elaborated upon: (1)
the similarity between legitimate job duties and criminal activities, (2) autonomy, (3) mobility, (4) job-specific knowledge acquired through job-related privileges, and (5) social capital of employees.

When analysing the jobs of organised crime offenders in the studied cases, a distinction can be made between civilian personnel and law enforcement personnel. Examples of civilian personnel encountered in the cases are stewards, janitors, technicians, and personnel engaged in (coordination of) cargo handling. Law enforcement personnel encompass customs and police officers. In the majority of cases, civilian personnel was found to abuse job-related privileges and knowledge to facilitate drug trafficking. In one case, a member of a criminal group became employed at the airport, but the group was arrested before he could abuse his position.

One of the job-related factors facilitating engagement in organised crime was the similarity between licit job duties and criminal activities. Because cargo handlers frequently have to move luggage from one place to another, moving luggage with drugs did not raise suspicion. In a similar way, technicians have to inspect airplanes from the inside. Therefore, moving ceilings, removing screws, and checking the water tanks when looking for hidden drugs all appeared to be part of regular duties. In general, it could be stated that employees with mainly executive duties in their legitimate job also mainly carried out executive tasks in their role of criminal group member. Employees with legitimate coordinating and supervising duties often had more diverse types of tasks in the criminal group. For example, the director of a cleaning company in case 11 supervised criminal group members, but also engaged in logistic activities. A municipal clerk in case 14 gave the criminal group judicial advice, which relates to his legitimate job, but also transported drugs a few times. Finally, the similarity between criminal activities and legitimate job duties also applied to law enforcement personnel. For example, in case 2, criminal group members said that they had corrupted a customs officer, so he would fake checking the luggage of a mule.

A relative high level of mobility and autonomy are also advantageous for engagement in organised crime activities. Due to high mobility, stewards had plenty of opportunities to traffic drugs to and from different countries themselves and they could explore new routes to expand their drug trade. Because cargo handlers were very mobile, they had plenty of opportunities to transport luggage with drugs from one side to the other side of the airport without raising suspicion. A high level of autonomy allowed janitors and technicians to smuggle drug packages from airplanes, cargo handlers to discretely separate luggage with drugs from licit luggage, and directors to access computer systems at the airport. A high level of autonomy also facilitated changes in work schedules advantageous to the criminal group. In one of the cases, the manager of corrupted employees stated in an interview with the police that the employees frequently changed their work schedule. Employees were more or less free to switch schedules with other employees. In the following example, the coordinator of a team of cargo handlers made sure that the right employees were scheduled to work at the right time so they could easily take out luggage with drugs.
This case also demonstrates how mobility, job-related privileges, and the similarity between job duties and criminal activities facilitate drug trafficking at the airport:

**Case 7:** Suspect K was a coordinator at a luggage handling company at the airport. He was therefore able to create or adjust work schedules so that cargo handlers involved in drug trafficking would be present at the time luggage with drugs arrived. K, however, was not a high ranking member in the criminal group. Therefore, K only initially designed the work schedule according to the criminal group’s wishes. Later, group members and cargo handlers L and M created the work schedule themselves while K only had to turn a blind eye.

Another job-related factor facilitating engagement in organised crime is job-specific knowledge acquired through job-related privileges. For instance, knowing at which place and time luggage arrives and where that luggage has to be transported to, is job-specific knowledge. To acquire this information, cargo handlers had to have access to computer systems in which information about the arrival of airplanes can be retrieved. Examples of other privileges resulting in job-specific knowledge are using company’s vehicles in order to transport luggage or entering airplanes in order to clean them on the inside. These privileges, or duties, result in knowledge such as knowing how to manoeuvre airport vehicles and how airplanes are (roughly) constructed. It appeared from the studied cases that such knowledge is very useful to criminal groups attempting to smuggle drugs into airplanes and from airplanes, with or without luggage.

Finally, social capital of employees working at the airport mainly encompasses other contacts working at the airport or contacts that used to work at the airport. The following case demonstrates the usefulness of contacts at the airport:

**Case 2:** Suspect N was supposed to pick up luggage with drugs at the airport. This luggage, however, had already been taken away by the police. While N was looking for the luggage, he ran into one of his contacts working at the airport. This contact was able to access the computer information systems and could see that the luggage had been taken away by the police. N informed a higher ranking member, suspect O, about the police seizure.
To summarise, the occupational embeddedness of organised crime activities is manifested through five job-related factors. Autonomy, mobility, and the similarity between legitimate duties and criminal activities all mainly facilitate discrete engagement in organised crime activities during work time. Job-specific knowledge makes a person interesting to organised crime groups because this type of knowledge is rather scarce yet very useful to groups operating at logistical nodes. Similarly, social capital acquired through work also makes a person interesting to organised crime groups because people who already work at a logistical node are not always easy to find. The usefulness of social capital in organised crime is further elaborated in the next section.

**Social Embeddedness**

In this section, the relationship between group members and the role of settings in which these relationships are formed are examined in greater detail. First, the role of ethnicity and the types of relationships between offenders are discussed. Subsequently, subcultures and offender convergence settings encountered in the cases are discussed.

Organised crime groups cannot rely on the law or mediation to prevent (the escalation of) conflicts. Therefore, trust, proximity, and having a shared past and future are important factors in finding new members (Beckert and Wehinger 2011; Kleemans and Van De Bunt 1999; Loughran et al. 2013; Von Lampe and Johansen 2004). New offenders are thus often persons with whom group members already have a social bond. Typically, offenders look for potential co-offenders in their circle of friends, relatives, and acquaintances. This often leads to greater ethnic homogeneity within criminal (sub)groups. However, as Kleemans and Van de Bunt (1999, p. 25) note: “The basis of criminal associations is not formed by ethnicity, but by the social relations that exist between various persons. This applies to both immigrant and native offenders.” Social bonds are indeed an important factor in the search for co-offenders (Morselli 2003; Beckert and Wehinger 2011).

A type of settings that foster strong social bonds concerns subcultures. Members of subcultures in which strong cohesion is present also demonstrate high loyalty towards the group (Kleemans et al. 2002). Certain subcultures increase the likelihood of members to engage in crime, if that subculture endorses deviating norms that approve of, or even promote, crime (Kruisbergen et al. 2012). With the combination of a high degree of loyalty, strong cohesion, and deviating norms, subcultures provide a pool of potential co-offenders to criminal groups. Newcomers to subcultures or groups endorsing criminal norms are then socialised into criminal practices (Anand et al. 2005).

Another type of setting that facilitates the introduction of new members is the so-called ‘offender converge setting’ (Felson 2006). An offender converge setting is a place where co-offenders meet with each other or with potential co-offenders to discuss criminal activities. Examples of such places are market places and cafés, but
the legal workplace could also function as an offender converge setting (Kruisbergen et al. 2012; Kleemans and Van de Bunt 2008).

In most of the studied cases, the ethnicity of group members varied greatly. In only two cases, criminal groups were completely ethnically homogeneous. In cases with mixed ethnicities, ethnicity was more homogeneous within subgroups than between subgroups. This is exemplified by case 1:

**Case 1:** Group 1 consisted of two Lebanese men, group 2 and 3 each consisted of two Surinamese men, and group 4 consisted of two Turkish men. There was also a Colombian man who received drugs from a Surinamese and another Colombian man. The drugs were subsequently sold to a Greek, a Moroccan, an Algerian, and a native Dutch man.

Differences in tasks were also related to differences in geographical origin between subgroups. In cases 2 and 3, for example, a subgroup originating from Israel and a subgroup originating from the Netherlands could be discerned. In both cases, the Israeli subgroup was more engaged in drug trade while the Dutch subgroup was more engaged in manufacturing drugs. In case 11, most members had a Turkish background, but mainly non-Turkish members served as brokers. Brokers are persons in a network who connect groups that would otherwise be unrelated (Burt 1997). Through their ethnic background, non-Turkish members were better able to connect to criminal groups in countries other than the Netherlands and Turkey, which in turn expanded the drug trade of the whole criminal network.

One of the reasons ethnic homogeneity was greater within (sub)groups is that offenders frequently introduced family members as new co-offenders. The two cases in which the criminal group was completely ethnically homogeneous were both family organisations, that is, nearly all members were relatives of each other. As Kleemans and Van de Bunt (1999) noted, social relations are of greater importance than ethnicity in the recruitment process. The importance of social relations over ethnicity is exemplified in case 8. A difference in ethnic backgrounds was noted in this case between drug mules and money mules. Money mules were all considered trustees by the leader of the criminal group. These money mules were also closely related to his family and they had the same ethnic background as the leader. The drug mules, on the contrary, were not closely related to the leader and had all sorts of ethnic backgrounds. The drug mules merely engaged in drug trafficking to earn some extra money.

In most cases, 12 out of 16, family ties existed amongst members. In at least 6 of the 12 cases, romantic partners or ex-partners co-operated in the criminal group. Besides family ties, most criminal groups also included friendships. In most cases, the relationship between recruiters and their friends and acquaintances dated years back. In a few cases it was noted that proximity was also an important factor. New group members either lived close to the recruiting group members, or they visited the same (local) stores or restaurants as the recruiting group members. In case 5, one
of the suspects slowly got involved after she met one of the members who lived in an apartment above the restaurant she was working for. In case 13, one of the suspects stated that he met many of the group members years ago in the restaurant he owned back then. Finally, in case 15, suspect A met suspect B by accident when he was shopping in suspect B’s food store.

Besides consulting family members or friends, criminal groups also attempted to recruit persons with certain job-related privileges. In 12 out of 16 cases, group members consulted either direct colleagues or ex-colleagues to search for new group members.

The introduction of new group members could also be facilitated by a permissive subculture among several members of airport personnel. In one of the cases, a person involved in the criminal investigation noted that theft of travellers’ properties and drugs trafficking frequently occurred because it was a very lucrative activity, whereas the chance of getting caught was rather low (see also Schelvis and Lub 2008). Due to the nature of our data (i.e., mainly police files), we could not determine with certainty to what extent a permissive culture was indeed present or how security measures could have affected the pervasiveness of such a subculture.

Offenders not operating in permissive subcultures sometimes met potential co-offenders in offender convergence settings. A typical offender convergence setting is jail. In three cases, group members established contacts in jail, which they used later when their criminal group needed new group members. In case 15, the market place functioned as an offender convergence setting where new contacts were established. The advantage of the market place is that it attracts people who are in the trade business and thus already possess skills and knowledge desired by criminal groups.

To conclude, persons were most likely to be introduced to criminal groups if they already had a social bond with group members, whether it was through old friendships, jobs, or proximity. The most common type of social bonds encountered in the cases concerned family ties and job-related ties.
Becoming and Staying Involved in Organised Drug Trafficking

Occupational and social embeddedness are important factors in understanding the context in which people become involved in organised crime. However, the fact that a person is employed as a cargo handler does not automatically imply that this person wants to engage in drug trafficking. Similarly, a person does not join a criminal group simply because he or she has a criminal niece. Therefore, in this section, personal circumstances and motivations that cause people to become and stay involved in organised crime are discussed.

Becoming Involved

From the studied cases, a plethora of personal motivations and circumstances could be distilled that could lead to engagement in organised crime. The most prominent personal motivations and circumstances are discussed here. First, in both the occupational and the social setting, criminal groups attempted to recruit new members that were in a vulnerable position. For example, in case 7, cargo handlers who trafficked drugs looked for potential co-offenders by first getting to know their colleagues better and establishing a friendship with them. Group members then had conversations with their colleagues about their home situation and tried to find out how susceptible they were to engagement in organised crime. If they found a weak spot, that colleague would subsequently be persuaded to join the criminal group.

Financial setbacks are one of the types of negative life events that often emerged as a motivation to become involved in organised crime. In several cases, suspects told the police that they had financial issues (in general) or that they had debts due to a gambling or drugs addiction. Financial issues were one of the weak spots criminal groups tried to find in new members. In case 3, a group member persuaded one of his family members who was in a bad financial situation to become involved in organised crime.

Case 3: Suspect P told the police that he was approached by suspect Q to become involved in drug trafficking. P states: “One night, we were having dinner with my family and Q’s family. At some point, Q said he wanted to discuss something with me. After dinner, Q asked me if I wanted to go abroad to escort drug mules. He asked me how I was doing. I told him that I was in a bad financial situation and that I agreed to go abroad.” P also stated that “he felt he had no choice because he thought that the money would clear his debts. Moreover, his engagement would be limited to escorting drug mules to other countries.”
Vulnerability due to a bad financial situation was also prominent in immigrants who had just arrived in the Netherlands. Living in poverty after migrating to the Netherlands was recurrently claimed to be a motivation for especially those originating from the Dutch Antilles.

Case 10: Suspect Z migrated to the Netherlands, but did not obtain a steady job and received no welfare payment. Therefore, he did odd jobs for suspect A, such as doing the groceries and taking the children to school, but also criminal activities related to drug trafficking. When he was released from prison, he found a job. However, after 6 months, he became unemployed again. Z’s financial situation went from bad to worse and he became involved in A’s drug trafficking business again.

It was also noted that some suspects received social welfare payment in the Netherlands while investing their drugs money in houses and expensive cars in the Dutch Antilles. Indeed, several suspects seemed to become involved simply because they wanted a more luxurious life.

Case 7: Suspect R told the police about his involvement in drug trafficking: “They just asked me so that I could do more things with my children… You can earn 6000 euros and then you start to consider your options seriously.”

Whereas suspect R seemed to suggest that the amount of money makes people think seriously about involvement, other suspects suggested that they were in fact blinded by the amount of money. As a suspect in case 6 stated: “I know the kind of scene I entered and it is about a lot of money, so you know what those people do for all that money.” Despite the fact that some suspects were actually in a bad financial situation when they became involved in organised crime, they might have also used this situation as a neutralisation technique for themselves or as an attempt to reduce criminal liability when talking to the police.

In a few cases, involvement in organised crime resulted from romance. In the following examples, a group member started a relationship with someone who was in a bad financial situation after which the new partner slowly became involved in the criminal group.

Case 10: As stated by a police officer: suspect X involved her partners in her organised crime activities. When X and Y became involved in a romantic relationship, he started to work for her by carrying out illicit activities for her criminal group. However, she did not always pay him because, as she told him, she already paid his rent and gave him food.
Case 2 demonstrates the social snowball method that often describes the introduction of new group members. The social snowball method is a repeated process in which group members search for new members in their network and those new members do the same when they have become involved in the group (Kleemans 2012). Sometimes, the snowball method was deployed to find people with specific assets the criminal group needed for their illicit activities. Case 2 exemplifies the snowball effect whereby (ex-)colleagues were used to find potential co-offenders.

Case 2: Suspects H and her brother I approached suspect J because they heard that he had worked at the airport. J knew people who were still working there and could smuggle luggage with drugs into the plane. J then connected H and I to someone he knew who could arrange that those people would smuggle the drugs into planes.

Finally, several suspects admitted that they initially engaged in drug trafficking for thrill and excitement. In case 14, one suspect engaged in drug trafficking because he was attracted to criminal activities and the lucrative business of the group. Other suspects in this case stated that they liked to be around the highest ranking member. Being in his presence enhanced their status in their environment. In another case, case 7, one of the suspects told the police: “I found it very exciting because I knew it was forbidden. On the other hand, I also knew that I could earn a lot of money with it.” This suspect also said that he had a debt of several thousands of euros.

Staying Involved

Money and social ties are important factors for becoming involved in organised crime. These factors are also important, however, in staying involved in organised crime. In case 2 one of the highest ranking members, suspect B, played ‘divide and rule’ with his group members. According to his group members, B paid them too little and used them. Because they were dependent on his money, however, they remained loyal to the group and to him. Many social ties existed among the members as well, ranging from direct family and family-in-law to friendships. Similarly, in case 13, one of the suspects stated that he only continued his involvement because he was not yet paid the full amount of money he had earned for his involvement: “If I would receive all the money, I would not work with drugs anymore.”

Drug mules living in poverty are not only easy bait for criminal groups, but they are also easy to keep involved. Drug mules might start smuggling to pay off their debts or to escape poverty. However, they are also made dependent by initially lending them money which they later have to pay back by smuggling drugs. Another tactic to ensure the mules do not run away is to wait until they have successfully smuggled the drugs across borders and then pay them afterwards. Nonetheless,
criminal groups preferred to involve mules that were already connected to criminal group members because, as explained before, social ties promote trust in each other. Next to a need for money, greed was another motivation to stay involved. Case 5 exemplifies the attraction of luxury:

**Case 5:** *The main reason for suspect S to traffic drugs was to sustain his luxurious lifestyle. S liked to be the centre of attention. It was one of his dreams to become co-owner of a dancing club. S probably paid criminal money to fulfil this dream as he became co-owner during the police investigation. Suspect T told the police that S had a Ferrari and a BMW that suspect U took away from him because S owed U money. U had a very profitable club and was so rich that he actually did not need to traffic drugs for money.*

Threats were another method deployed by criminal groups to force their members to stay involved. In several cases, higher ranking members threatened lower ranking members, if the latter tried to leave the group or even if they complained.

**Case 12:** *Suspect C tells the police that he had to come to a restaurant because of rumours about unsatisfied members. In the restaurant, he met three higher ranking members. According to C, tensions rose during the conversation and they accused him of complaining. At some point, one of the three higher ranking members grabbed a knife on the table and said: “If something like this happens again, I will cut your throat.”*

Sometimes, threats directed at members who tried to leave the group were more subtle. A suspect in case 9 said that, after he had made clear he wanted to leave the group, thieves entered his house and took away many of his belongings. Another suspect also wanted to leave because his involvement made him too nervous. He told the police:

**Case 9:** *“Several nights before the first shipment, I was unable to sleep. I continued, however, because D said “You will continue”. He said that face-to-face. I felt threatened and forced. Eventually, I told D a story, namely that from February 2008 on, surveillance on the airport would be stricter. That way I tried to quit. (...) They never threatened me, but I felt threatened because of the way they acted. For example, I never told them where I lived, yet they did show up at my house.”*
Group members were not only threatened with violence when they tried to leave the group, but also with notifying the authorities of the illegal activities these group members had already engaged in.

Case 16: Suspect B was head of a spy shop and approached suspects C and D to offer them an IT-related job. Because both were interested, B challenged them to demonstrate their IT-skills. The police presume that suspect B subsequently used either C and D’s demonstration or their financial rewards to pressure them into developing malware that would be used to neutralise the port’s digital security systems.

Finally, often a high degree of loyalty and strong cohesion exists between members of (criminal) subcultures (Kleemans et al. 2002), which makes it harder to leave the criminal group.

In sum, money and social bonds are amongst the most motivating factors fostering involvement in organised crime. Criminal groups often rely on the snowball method when searching for new members in their social network. Persons who are in a bad financial situation are relatively easily recruited by criminal groups. However, a strive for luxury might also be a reason to become involved and stay involved in organised crime, because large amounts of money can be earned quickly through criminal activities. Threats of violence, either implicit or explicit, were the primary method deployed by several criminal groups to keep group members, who attempted to leave the group, involved. However, sometimes threats were not needed because group members felt obliged to stay due to being part of a subculture in which social bonds are strong and group loyalty is high.

Conclusion and Discussion

Empirical Results

Based on in-depth analyses of cases from the Dutch Organised Crime Monitor, this study explored how drug traffickers operate at important logistical nodes in the Netherlands. Furthermore, the social and occupational embeddedness of organised crime activities of these drug traffickers were analysed.

As for logistical operations, three types of tactics to traffic drugs without getting caught were discerned. First, to defy security checks, criminal groups most often deployed drug mules or methods that were supposed to avoid unusual shapes (of drugs) on scanner images. Second, to avoid security checks at all, criminal groups attempted to recruit persons of private companies with job-related personal credentials or privileges through which drugs could be smuggled without passing security
checks. Therefore, deliberate recruitment was aimed at persons employed at logistical nodes such as (former) colleagues. Finally, to directly neutralise the security checks themselves, criminal groups corrupted law enforcement officers, i.e. customs or police officers. In exchange for their help, officers received money and pictures of drug mules so they would know which persons not to check.

The occupational embeddedness of organised crime activities was manifested through job-related factors. Autonomy, mobility, and the similarity between legitimate duties and criminal activities facilitated discrete engagement in organised crime activities during work time. Mobility also facilitated exploration of new trafficking routes. Legitimate duties and criminal activities were more similar in employees with executive functions than in employees with other types of functions, such as managing or coordinating functions. Social capital and job-specific knowledge both acquired through work are two other factors that make port employees more interesting to organised crime groups. These types of contacts and knowledge are rather scarce yet very useful to groups operating at logistical nodes.

Persons with whom group members already had a social bond were more likely to be introduced to the criminal group. The snowball effect came into play here. Current members searched for potential offenders in their network and once involved, the new group members did the same. The most common types of social bonds encountered in the cases were family ties and job-related ties such as ties with colleagues. Involvement of colleagues was fostered in case a permissive subculture was present at the workplace which then functioned as an offender convergence setting.

Finally, personal motivations and circumstances leading to involvement in organised crime were examined. Social bonds and money were both important in becoming involved and staying involved. The importance of social bonds for finding and involving new group members was exemplified by the snowball effect. Whereas persons in a bad financial situation were relatively easy to recruit, the promise of luxury was also hard to resist by those who were not in a bad financial situation. Greed appeared to be more often a reason to stay involved than a need for money. Sometimes, however, group members were not immediately given the full amount of criminal money they had earned so as to make them continue to work for the group. Threats of violence were also frequently employed to make members who wanted to leave stay in the group. In some cases, threats were not needed because group members felt obliged to stay due to being part of a subculture in which social bonds are strong and loyalty to the group is high.

**Insight into Involvement Mechanisms for Organised Crime**

Earlier research has demonstrated that factors related to engagement in crime differently affect organised crime offenders as compared to high volume crime offenders. In general, positive life events such as having a job and being married are considered to have a desisting effect on engagement in crime. However, in the case of
organised crime, having a job, a family, and other relationships could promote involvement in criminal activities through, for example, providing opportunities to find capable and trustworthy co-offenders. This chapter validates previous findings on the job characteristics autonomy, mobility, and frequent social contact facilitating engagement in different types of organised crime (Kleemans and Van de Bunt 2008; Van Koppen 2013; Van Koppen and De Poot 2013). As argued by Von Lampe (2012), research on organised crime often lacks an analysis of modes operandi of specific types of organised crime. This chapter provided insight into the modus operandi and logistics of transnational drug trafficking at logistical nodes. Furthermore, this chapter analysed involvement mechanisms for this specific type of organised crime, i.e. drug trafficking, and for people working in this specific context, i.e. airports and seaports. By analysing results of research on organised crime in a clearly defined context, this chapter adds in-depth knowledge to existing, general insights into organised crime.

Enhancing (Air)port Security

This chapter showed how drug traffickers operate when they need to pass an important logistical node in the Netherlands, i.e. Amsterdam Airport Schiphol. Logistical nodes and companies operating at the nodes are key in the prevention of organised crime. However, decision makers involved in security issues face several dilemmas. Three of these dilemmas are outlined here: the tensions between personnel’s autonomy and mobility on the one hand and security on the other, the tension between swift handling procedures and security, and the corruption dilemma.

Autonomy and mobility is more or less necessary for the flexible fulfilment of the job duties of several types of airport personnel, such as cargo handlers. However, autonomy and mobility also create opportunities to engage in criminal activities. Reducing the autonomy of airport personnel and increasing supervision on their activities could reduce security risks, but could also lead to less flexible and more time consuming procedures. This dilemma relates to the following, more general dilemma between speed of handling procedures and security.

An obvious way to reduce opportunities for drug trafficking is to increase security checks. However, increased security checks often result in less swift handling procedures for transportation of persons and cargo. Due to the economic importance of and the competition within the transportation sector, speed of handling procedures is an essential asset for airports.

One possible ingredient of a policy aiming at higher levels of security is to hire more security personnel. However, security personnel could be corrupted. It is a security officer’s duty to encounter criminal activities and offenders, but this also opens up opportunities to become involved in crime (Carter 1990). Furthermore, criminal groups might put more effort in trying to neutralise (corrupt) security personnel when increased security checks make it more difficult to simply defy or
It is because of these dilemmas alongside the large demand for and supply of drugs, the profitability of drug trade as well as the resourcefulness of offenders, that fighting drug trafficking is a truly ‘wicked problem’ (Rittel and Webber 1973). This does not imply that we should just take drug trafficking for granted. The dilemmas involved in security policies, the extent of the drug trafficking problem, as well as the potential threat that organised crime poses to society in general, require that governments, law enforcement agencies and private companies are constantly engaged in finding better solutions. Moreover, the transnational character of drug trafficking requires equally ‘transnational’ countermeasures. The recent past has demonstrated that international cooperation can produce effective policy measures, as was the case with the pre-boarding checks at Hato International Airport on the island of Curacao (Kleemans et al. 2010). Scientific research can contribute by providing an empirical base for policymakers.

**Directions for Future Research**

The introduction of highly automated processes has greatly changed the way things work at the ports in the last decades. However, the effect of automation on the modus operandi of criminal groups is less obvious from the studied cases. Although some criminal groups tried to circumvent security systems or used automated processes to their advantage, automation played no significant role in the majority of cases. The lack of abuse of automated systems in most cases could be due to the timeframe in which investigation of these cases took place. The earliest investigation dates back to 1991, whereas the latest investigation only started in 2012. Because some of the studied cases are somewhat dated, it is unsure to what extent smuggling methods of currently operating criminal groups has changed. However, the results also demonstrate behaviours that are time-persistent, such as recruitment of persons in one’s own social network and abuse of job-related privileges and knowledge. Nonetheless, future research should analyse new smuggling methods and compare to what extent fundamental changes, if any, have taken place due to the advancement of automated processes.

Another question raised by the data used concerns the generalizability of the results. All studied cases revolve around large logistical nodes in the Netherlands or neighbouring countries. It may well be that the size of a logistical node affects the types of smuggling methods employed by criminal groups as well as the ease with which these methods are employed. Alternatively, although the exact execution of smuggling methods may differ between logistical nodes, the general involvement mechanisms might not. Future research is therefore urged to compare smuggling methods and involvement mechanisms between different types of logistical nodes. Furthermore, future research should aim at expanding insight into involvement
mechanisms by focusing on other types of organised crime and other occupational contexts.

Finally, the present study is also limited by selection bias. Not all criminal activities reach the attention of law enforcement and not all can be solved. In this study, only solved cases were examined. Even though the cases analysed do demonstrate great diversity in modus operandi and the nature of crime groups, future research is suggested to deploy different methods to research this topic. For example, researchers could interview organised crime offenders themselves. By interviewing offenders, it would be interesting to find out if and how occupational and social embeddedness of organised crime activities differs between different types of organised crime.

The Cases

Airport Cases

1. Marijuana, cocaine, and heroin traded by a network consisting of several groups that used each other’s facilities and traded drugs with each other. Marijuana was shipped in large amounts, whereas cocaine was transported in smaller amounts by plane to the Netherlands. A janitor at the airport used his privileges to smuggle drugs from the airport, sometimes using vehicles provided by the cleaning company. Besides luggage, other smuggling methods were swallowing drug capsules and, in the case of shipped drugs, hiding drugs in machines.

2. Cocaine imported from South America by two related networks that are connected through their leaders. Cocaine was smuggled into and from planes by personnel working at the airports. Corrupt customs officials received pictures of drug mules beforehand, so they would recognise them at the airport.

3. Dutch suspects producing XTC (‘ecstasy’) and Israeli suspects exporting this XTC. Drugs were hidden in toy boxes that were to be transported by plane. Some flights were avoided due to the scanners used at some airports.

4. A family organisation importing cocaine from Curacao using drug mules and air freight. In the latter case, cocaine was added to a soup and sent as a frozen package.

5. Export of XTC to the United States of America and Canada by stewards who took the pills with them in their personnel luggage. After surveillance had been increased at the personnel entrance, the group bought plane tickets to get to airside with the drugs and then hand over the luggage to the stewards.

6. Cocaine import from Curacao and the Dominican Republic by a network with many ties to the exporting countries. Drugs were smuggled by mules, customs officials were corrupted, and several air routes were avoided to evade security checks.
7. Cocaine imported from South America by a network of colleagues working in the (luggage handling) basement of the airport. Most suspects worked in the same team and paid their coordinator to turn a blind eye on the drug trade. Drugs were carried off the airport with vehicles available for their regular duties.

8. Export of XTC to Asia and Oceania and import of cocaine from South America. Money mules were close to the Israeli core members, whereas drug mules were less close to the core and differed greatly in ethnicity. While the Israelis in this network were mainly occupied with trade, the Dutch were mainly occupied with producing drugs.

9. Cocaine imported by a network of colleagues working in the (luggage handling) basement of the airport. Luggage agents, transfer agents, and coordinators all engaged in the drug trade. Luggage labels were sent back to South America for re-use and luggage reports were falsified. The group used vehicles of airlines to transport drugs off the airport.

10. Cocaine imported from South America by a Dominican family organisation with a single mother being in charge. She bought plane tickets for drug mules. The drug mules swallowed capsules and coins or carried suitcases with metal to avoid detection by security scanners.

11. Cocaine imported from Suriname and the Dutch Antilles by a group of colleagues who were employed by a cleaning company established to traffic drugs. Through their duties, they had the privilege to enter airplanes and search for the hidden drug packages, and to check computer systems for information about specific flights. In addition, they sometimes borrowed airport vehicles from persons employed by airlines.

**Seaport Cases**

12. Hashish trade by a network consisting of several groups that sometimes worked together on ad-hoc basis and sometimes more structurally. Ships were bought by front companies to transport hashish hidden in containers to and from the Netherlands. Sometimes the hashish was not directly brought into the harbour by ship, but first unloaded onto a smaller boat and then brought to land. After a transport had succeeded and the ship was no longer necessary to the group, the ship was sold again. Persons with jobs and/or skills related to sea transport were recruited, such as captains and electricians.

13. Cocaine trade by a family organisation. The group bought machines in Israel and the Netherlands, transported the machines as air freight to South America, filled them with cocaine, and then transported them back to the Netherlands by ship. Sometimes the Netherlands served as the destination point and sometimes as a transit point to further distribute the drugs in Europe.

14. Four interrelated groups that imported cocaine and hashish, and exported synthetic drugs such as XTC. Cocaine and hashish were hidden in containers and
shipped from South America to the Netherlands. XTC was hidden in air freight to the United States of America. Some suspects had connections with shipping and transportation companies. One suspect worked in the container business.

15. Cocaine exported from South America to several European ports. Certain ports were avoided due to the type of security scanners in use there. Cocaine was hidden inside the pallets and masked by different types of covers, such as bananas. The main suspect had established useful connections during his time in jail and through his trading company. Furthermore, XTC was exported to the United States through air freight.

16. Cocaine imported from South America by a large network that hacked a track and trace website to follow containers in which drugs were hidden. They also digitally intercepted pin codes to pick up the containers before the legitimately appointed truck drivers could do so. After unloading the drugs, they returned the containers to the legitimate companies that ordered the containers in the first place.

References


Delinquent Development, Employment and Income in a Sample of Dutch Organized Crime Offenders: Shape, Content, and Correlates of Delinquent Trajectories from Age 12 to 65

Victor van der Geest, M. Vere van Koppen, and Edward R. Kleemans

Introduction

This chapter describes the shape and content of criminal careers of a large sample of Dutch organized crime offenders and relates these criminal careers to social economic factors such as employment and income. Other chapters in this volume provide systematic reviews of the literature regarding criminal careers of specific—largely understudied—groups, such as criminal careers of organized crime offenders (e.g. Savona et al. 2020). Reviews of the literature demonstrate that the vast majority of studies focuses on juveniles, adolescents, and high-volume crime. Therefore, we do not know whether or not ‘established facts’ about traditional criminal careers (e.g. Farrington 2003; Blokland and Van der Geest 2017) also hold for criminal careers in organized crime. Does a long and serious criminal career, for example, require an early onset of offending, as is the case for traditional forms of crime? And is employment an important preventive factor for involvement in crime, as is demonstrated by studies on employment and criminal careers (e.g. Van der Geest 2011)? Since organized crime is in many ways different from traditional forms of crime (see below), it is important to focus more empirical research effort on this specific—seriously understudied—group of offenders.

This chapter is based on information from five data sweeps of the Dutch Organized Crime Monitor (OCM) including 1921 offenders, combined with information from the Dutch Offender Index (OBJD) on criminal careers of these offenders and information from Statistics Netherlands (CBS) on education, employment and income of these offenders. After a brief overview of earlier research findings, based on the Dutch Organized Crime Monitor, the methods section presents a description of the data and the analyses (fixed effects and group-based trajectory
models). In the results section, we describe the criminal careers and employment of those involved in organized crime at a particular moment in their lives. First, the total sample is described in terms of offending, educational background, employment, and legal income. We do not only describe the criminal and employment pathways, but also examine the effect of employment on crime. Second, we divide the total sample in three different ways, allowing comparisons between different subgroups of offenders. The first way is to compare criminal careers and employment for offenders involved in different types of organized crime activities. The second way relates to offenders fulfilling different roles in a criminal organization, whereas the third way distinguishes offenders based on their criminal trajectory. The chapter ends with a conclusion and discussion.

Earlier Findings From the Dutch Organized Crime Monitor

The Dutch Organized Crime Monitor is an ongoing research project, carried out by the Research and Documentation Centre, VU University Amsterdam, and Erasmus University Rotterdam, focusing on the nature of organized crime in the Netherlands. The main sources for the Dutch Organized Crime Monitor are closed police files of criminal groups, often spanning a period of several years (for more information, see Kleemans 2014). During the period 1996–2017, five data sweeps were carried out, resulting in the systematic analysis of large-scale investigations of 180 criminal groups involved in organized crime. In the Dutch Organized Crime Monitor, organized crime is mainly distinguished from terrorism, corporate crime, group crime, and other types of crime by specific characteristics of the groups involved. Following the definition of the Fijnaut Research group (Fijnaut et al. 1998), criminal groups are considered to be organized crime groups when they are focused primarily on obtaining illegal profits; systematically commit crimes with serious damage to society, and are reasonably capable of shielding their criminal activities from the authorities. Shielding illegal activities from the authorities is possible through various strategies, for example: corruption, violence, intimidation, store fronts, coded communication, counter-surveillance, media manipulation, and the use of experts, such as notaries public, lawyers, and accountants. As police priorities influence to a large extent which criminal groups are investigated in the first place (and to which extent), a random sample of organized crime cases is inconceivable. Therefore, the OCM aims at a wide cross-section of empirical cases, using a strategic selection of cases from a total population of all closed criminal investigations of national and regional investigation teams (including the fiscal police). The 180 large-scale investigations relate to eight different types of organized crime: (1) traditional drugs (cocaine, heroin, cannabis) (2) synthetic drugs, (3) traditional and synthetic drugs, (4) human smuggling, (5) human trafficking, (6) fraud and money laundering, (7) cybercrime, and (8) other types of organized crime activities.

Furthermore, it important to note that many forms of organized crime in the Netherlands can be characterized as ‘transit crime’ (Kleemans 2007): international
smuggling activities, such as drug trafficking, smuggling illegal immigrants, human trafficking for sexual exploitation, money laundering and evasion of taxes (cigarette smuggling, European Community Fraud, VAT fraud, for example), whereby the Netherlands can be a production country, transit country, or country of destination. Such activities pose different requirements for offenders than traditional high-volume crime (Kleemans and De Poot 2008). The first distinct feature of these forms of organized crime is the greater importance of social relations, as international trade requires access to suppliers, clients, co-offenders, and profitable criminal opportunities. An important insight from earlier research on the OCM is that not every offender has this access and that building up these relationships (including trust) takes time and energy. The second distinct feature relates to the transnational character of these activities. Given that most existing social networks are often socially and geographically clustered, the trust problem in illicit trade (e.g. Reuter 1983) is even more complex and many offenders lack the necessary international contacts that may connect them to these illegal opportunities. Finally, these activities are also logistically far more complex, e.g. transporting illegal goods over long distances and crossing many borders without being noticed by the authorities. Therefore, more co-offenders and specific expertise are often needed, including contacts with the licit world, e.g. for transport, money transactions, and shielding activities from the authorities. Many people lack these contacts and expertise, and some acquire them only later on in life, e.g. through their professional activities and contacts.

In their analysis of 979 suspects who were involved in 79 different organized crime cases of the OCM, Kleemans and De Poot (2008) coined the theoretical concept ‘social opportunity structure’ – social ties providing access to profitable criminal opportunities – to explain involvement in organized crime. This concept explains why some offenders ‘progress’ to certain types of organized crime (whereas others do not) and why some people become involved in organized crime only later in life. The study particularly highlighted the significant group of ‘late starters’, people without any appreciable criminal history, and people in conventional jobs who switch careers.

Furthermore, they analyzed the careers of 66 (ring)leaders and ‘nodal’ offenders in more detail to find out how their criminal careers had developed. Some (ring)leaders had a long criminal career that could be characterized in four different ways: (1) the versatile but regionally constrained ‘local hero’ (versatility as a result of both opportunities and constraints of the local context); (2) the offenders who progressed into organized crime through an increase in scale (specialization, particularly in international drug trafficking); (3) those who progressed into organized crime through capital accumulation (investing in drug transports (while refraining from hands-on activities) and becoming a ‘background operator’); and (4) those with specific expertise, contacts, and network formation (people getting a central position in criminal networks, because many offenders and criminal groups need their contacts and expertise). Surprisingly, however, a significant share of (ring)leaders could be typified as ‘late onset’ offenders, who had made a switch from a legal occupational background to organized crime. Among these 32 offenders, a distinction could be
made between a group of 19 with a background in legal trade (including import and export) and a group of 13 with other types of occupation – people from the business sector, the construction industry, assembly, hotels and catering, financial services or government. Three different types of ‘late onset’ were described: criminal activities extending from legal activities (opportunities that arise during day-to-day work, particularly in fraud cases); people who obviously switch careers, from legal to illegal commodities, motivated by the huge profits that can be obtained through the trade in prohibited commodities, such as narcotics; and finally, people seizing upon criminal opportunities only later on in life after specific, significant life events (including financial setbacks and problematic debt situations).

Finally, they analyzed criminal careers of 92 ‘starters’, suspects who did not have any other prior judicial contacts and who had not ‘progressed’ from high-volume crime into organized crime. Five ‘involvement mechanisms’ were described in more detail: (1) deliberate recruitment by criminal groups, (2) social ties and the social snowball effect, (3) work ties, (4) leisure activities and sidelines, and (5) life events (including financial setbacks).

A follow-up study by Van Koppen et al. (2010b), on a larger dataset, investigated the phenomenon of ‘late starters’ in more detail. They elaborated upon this research and investigated criminal trajectories of 854 suspects, based upon quantitative and qualitative data from the Dutch Organized Crime Monitor. A semiparametric group-model was used to cluster 854 individuals into groups with similar developmental trajectories. The most important finding of this study relates to the substantial group of adult-onset offenders (40%) and a group without any previous criminal records (19%), next to a group of early starters (11 percent) and a group of persisters (30%). Up till then, no trajectory study had ever discovered such a vast share of adult-onset offenders. Furthermore, the findings turn out to be quite robust across different kinds of criminal activities (drugs, fraud, and other criminal activities) and different roles in criminal groups (leaders, coordinators, and lower-level suspects). Adult-onset offenders emerge in several kinds of criminal activities and in several kinds of roles in criminal groups.

Differences between the organized crime population and the general offender population were investigated by Van Koppen et al. (2010a). Following up on the finding that many organized crime offenders do not have judicial contacts before adulthood, a surprising result of the comparison was that this also turned out to be the case for the general offender population. However, organized crime offenders do more often have previous judicial contacts, and those previous contacts are also far more serious. Finally, these general findings turn out to be robust, as they also apply when comparisons are made between subsets of the organized crime offenders and the general offender population, for respectively drug crimes and fraud cases.

Van Koppen (2013) studied involvement mechanisms for organized crime in more depth through an analysis of 15 crime groups of the Dutch Organized Crime Monitor, including over 300 offenders. The study shows that the most common involvement in organized crime is through family and friends who are already involved. Almost all offender groups in the analysis contain multiple family ties between offenders, ensuring a basis of trust. Next to family ties, the analyzed groups...
also include individuals from outside the family who bring additional knowledge and contacts. Two types of resources are explicitly discussed. On the one hand, criminally experienced individuals who bring their criminal contacts and are used to the level of excitement. On the other hand, offenders with conventional experience who bring knowledge, skills and privileges gained in their occupational life. Finally, the study highlights involvement related to negative life events: some individuals get involved in organized crime after a financial setback or a relational crisis.

Although employment and work are often seen as preventive factors for involvement in traditional crime, the possible positive effect of employment and work relationships on involvement in organized crime is explicated in a study by Kleemans and Van de Bunt (2008). The analysis is based upon data from 120 case studies of the Dutch Organized Crime Monitor, involving 1623 suspects. The study describes the different kinds of occupations encountered in cases of organized crime and the main characteristics of these occupations. The study concludes that occupations, work relations and work settings may provide the breeding ground for organized crime activities, particularly transit crime. Three different ways in which occupations may present opportunities for committing organized crime are discussed. First, through international contacts and travel movements. This could explain the connection with occupations involving mobility, transport, and logistics: contacts with other countries and other social groups provide ample opportunity to discover and act upon certain opportunities of transit crime. Second, the individual freedom of movement and/or discretion is important. This explains the involvement of directors of (small) businesses, independent professionals and, in some cases, individuals with relative autonomy in larger organizations, such as companies and banks. More trust and autonomy also provide more opportunity of abuse. Third, the social nature of certain occupations is important. Occupations in which people often meet with different people also present many opportunities to meet potential co-offenders, buyers, or suppliers. Furthermore, the study describes various cases in more detail, highlighting the embeddedness of certain organized crime activities in work relations and work settings. A good example is provided by work settings related to ports, such as airport and harbors, which a very important for the import, transit, and exports of illicit goods and/or people. In this volume, Madarie and Kruisbergen provide an in-depth analysis of the importance of such work settings, based on selected cases of the Dutch Organized Crime Monitor.

**Methods**

For the purpose of this study, information from the Dutch Organized Crime Monitor (OCM) is combined with information on criminal careers from the Dutch Offender Index (OBJD) and information on education, employment and income, property values and debts from Statistics Netherlands (CBS).
Data

Organized Crime Monitor

In five sweeps of the OCM, information of a wide cross-section of 180 cases concerning various forms of organized crime was collected. In the studied criminal groups, 2305 offenders were involved. Police files and extensive case descriptions allowed for classifying different roles that offenders fulfill and different types of organized crime activities. For the current study, we distinguished three different roles: (1) leaders, (2) coordinators, and (3) offenders with different roles. Leaders are those offenders who fulfill an executive function in a criminal group; they give orders to co-offenders and monitor the whole criminal process. Coordinators plan and manage concrete criminal activities. For instance, they take care of offenders performing concrete acts, such as transports of drugs. Other offenders are, for example, deployed in the actual transport of illegal goods or act as a facilitator and are responsible for particular logistical processes. Furthermore, based on the primary criterion offence, we distinguished between eight different types of organized crime: (1) traditional drugs, (2) synthetic drugs, (3) traditional and synthetic drugs, (4) human smuggling, (5) human trafficking, (6) fraud and money laundering, (7) cybercrime, and (8) other types of organized crime activities. To make comparisons less complex, we combined the first three categories into one broader category (drugs). Also, since only 1% of the sample was involved in cybercrime-activities, this category was merged with the other-category. In sum, all individuals are classified as having one of three roles and being involved in one of six types of organized crime activities.

Dutch Offender Index

For information on offending over the life course, we used information (rap sheets) from the Dutch Offender Index (OBJD). We were able to reconstruct the entire criminal careers for 1921 individuals (out of 2305). These individuals constitute the final sample for this study. For each individual in the sample, information on all judicial contacts registered at the Dutch Public Prosecutor’s Office is available from age 12 (the minimum age of legal responsibility in the Netherlands) up to 2016 or death (if this occurred prior to 2016). This not only includes the timing and nature of offenses, but also details of the individual and how the criminal case was adjudicated. Two measures of seriousness were used in the current study. First, the statutory maximum punishment under Dutch law was used, distinguished in three different categories: (1) minor; for offences up to 4 years punishment threat, (2)

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1 The role of 64 individuals (3.3% of the final sample) is unknown. These individuals are, therefore, excluded from the analyses where individuals are distinguished based on their role in a criminal organization.
moderate; for offences with a 4 to 8 years punishment threat, and (3) serious; for offences related to more than 8 years punishment. This measure is independent of the judicial history and circumstances of the suspect, but also does not take into account the conditions under which the offences took place. Therefore, we used a second measure of offence seriousness: the judicial settlement of cases. For each case, it was indicated whether or not an unconditional prison sentence was imposed and what the duration of this prison sentence was. Although this measure is not a pure reflection of the seriousness of the offence (individual circumstances and prior judicial contacts can affect the sentence), it does take into account the conditions under which the offence took place.

**Statistics Netherlands**

For all 1921 individuals in the final sample, information on their highest education, employment, income, property values, and debts was collected from Statistics Netherlands. For individuals in the sample, their highest level of education attained was measured in 2015. Unfortunately, information on education is missing for half of the sample. Information on employment, income, property values and debts was available for the entire sample and measured longitudinally from 1999 to 2016, which means that it covers 18 years of each individual’s life. For privacy reasons, frequencies lower than ten are not reported.

During the 18-year period, all employment transitions were given (dates of starting a new contract and dates of ending a contract). We used several measures to summarize employment data. First, the distribution of working careers was given by indicating the total amount of time someone was employed during the observation period (never, up to half a year, half a year up to 3 years, 3–7 years, or more than 7 years). Second, \( \lambda \) describes the mean number of employed days in a year during the observation period. For example, if individual A works fulltime (365 days) for 5 years and then becomes unemployed for 5 years, his \( \lambda \) for this 10-year period will be 182.5. Third, for each individual, it was determined whether or not he or she was ever self-employed during the observation period. Fourth, we used a longitudinal dichotomous variable to indicate whether an individual was employed or unemployed during a year. An individual is considered employed in a particular year if he or she was employed for at least 182.5 days during that year. This dichotomous employment variable was used in all analyses examining the effect of employment on crime.

Similar to employment, information on income is available longitudinally for year 1999 up to year 2016. Several measures were used to examine legal earnings. First, for each calendar year, total legal income is given in euros. Second, the income percentile compared to the total Dutch population is given for each observed year. Third, the proportion of years with a positive income within the observation period is measured. Finally, it is indicated for each individual whether he or she ever received social benefits during the observation period. It is important to note that by using official register data, the analyses pertain to legal income. Although previous
studies suggest that undeclared work is often conducted on a self-employed basis, it is unknown to what extent self-employed activities are evidence for undeclared income. Therefore, the analyses of (signals of) illegal income is beyond the scope of the current chapter.

Several measures are used to indicate individuals’ properties and debts. First, it was known for each year (1999–2016) what the value of the main property was. Furthermore, the total property value gives the total value of the real estate possessed by an individual. On the other hand, most individuals also have debts. These debts are broken down into mortgage debt and other debts.

**Analyses**

Simple comparisons between subgroups of organized crime offenders were carried out. Within tables, differences between subgroups were analyzed by ANOVA’s (for continuous variables) or Chi-square tests (for dichotomous variables). In case of a significant difference between multiple subgroups on a continuous variable, Bonferroni post hoc tests were conducted to indicate which subgroups differ significantly.

**Fixed Effects Models**

To examine the causal effect of employment on crime, a methodological approach should be used that rules out selection because obtaining a job or becoming unemployed does not occur at random. Employed individuals differ from individuals without a job. A randomized experiment is the best approach to demonstrate a causal effect, but is unrealistic in the current study. One of the next-best approaches to control for a selection bias and demonstrate a causal effect is estimating a fixed effects panel model. A fixed effect model is able to control for unobserved differences between individuals by only measuring within-individual change over time. Because fixed effects models control for all time-stable differences, there is no need to include time-stable control variables. For the total sample as well as for all subgroups based on role, organized crime type and offending pattern, a separate fixed effect model was estimated, indicating the effect of employment on crime for each subgroup.

**Group-based Trajectory Models**

Semi-parametric group-modeling was used to cluster groups of individuals with a similar offending pattern over age (Nagin 2005; Nagin et al. 1995). Multiple trajectory analyses were carried out and both the Bayesian Information Criterion and probabilities of group membership were used as a basis for selecting the optimal
model. Given the chosen model, individuals were assigned to the trajectory where his or her posterior probability of group membership is highest. The trajectory group an offender is assigned to, gives an estimation of the offending path he or she has followed.

Results

Characteristics of the Offender Sample

Most individuals in the sample are male (91%) and a majority was born in the Netherlands (61%, see Table 1). Five percent died before 2016, which is the end of the observation period, at a mean age of 58 years.

Offending Over the Life Course

On average, organized crime offenders were 27 years old when their first judicial contact took place (Table 2). On average they committed a total of 11 crimes during their life course. For 9% of the offenders, the organized crime case is the only crime that was registered. About one-third committed two to five crimes, about one quarter committed up to 10 crimes, and about one-third committed more than 10 crimes during their lives. Most of these crimes are minor, and on average organized crime offenders committed only one serious crime. Three out of four offenders spent some time in prison during their criminal life-course. On average, they received three separate prison sentences, and spent 2 years in prison. At the time of their organized crime case, they were on average 38 years old. More than one-third was imposed a prison sentence for their organized crime activities, and they spent an average of 10 months in prison. Offending within the sample started rising from age 12 on, reached its peak at the relatively high age of 30, and slowly declined from that age on (Fig. 1). Compared to the traditional age-crime curve (Gottfredson and Hirschi 1990), offending stayed relatively high and only started dropping to a lower level from age 50 onwards.

Life-course Outcomes: Education, Employment and Income

Table 2 shows life-course outcomes for the organized crime offenders. More than half of the sample with a known educational level, only got elementary or prevocational education. One out of ten received higher education. About a quarter of the

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2 However, organized crime offenders were found to commit less minor and considerately more serious offences than the general offender population (Van Koppen et al., 2010a).
Table 1  Descriptives of the sample (N = 1921)

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean (SD) / N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1738 (91%)</td>
</tr>
<tr>
<td>Born in The Netherlands</td>
<td>1166 (61%)</td>
</tr>
<tr>
<td>Died before end observation period</td>
<td>96 (5%)</td>
</tr>
<tr>
<td>Age of death</td>
<td>58.1 (10.3)</td>
</tr>
<tr>
<td>Country of birth</td>
<td></td>
</tr>
<tr>
<td>The Netherlands</td>
<td>1166 (61%)</td>
</tr>
<tr>
<td>Surinam</td>
<td>149 (8%)</td>
</tr>
<tr>
<td>Turkey</td>
<td>140 (7%)</td>
</tr>
<tr>
<td>Morocco</td>
<td>44 (2%)</td>
</tr>
<tr>
<td>Former Netherlands Antilles</td>
<td>39 (2%)</td>
</tr>
<tr>
<td>Other western countries</td>
<td>98 (5%)</td>
</tr>
<tr>
<td>Other non-western countries</td>
<td>280 (15%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>5 (0%)</td>
</tr>
<tr>
<td>Total criminal career</td>
<td></td>
</tr>
<tr>
<td>Age at first crime</td>
<td>26.7 (10.3)</td>
</tr>
<tr>
<td>Number of crimes</td>
<td>10.9 (11.3)</td>
</tr>
<tr>
<td>Violence</td>
<td>1.0 (1.9)</td>
</tr>
<tr>
<td>Property</td>
<td>2.2 (4.4)</td>
</tr>
<tr>
<td>Drugs</td>
<td>0.9 (1.3)</td>
</tr>
<tr>
<td>Other</td>
<td>6.8 (7.0)</td>
</tr>
<tr>
<td>One-shot offender</td>
<td>172 (9%)</td>
</tr>
<tr>
<td>2–5 crimes</td>
<td>593 (31%)</td>
</tr>
<tr>
<td>6–10 crimes</td>
<td>456 (24%)</td>
</tr>
<tr>
<td>&gt;10 crimes</td>
<td>692 (36%)</td>
</tr>
<tr>
<td>Number of minor crimes (&lt; 4 years punishment threat)</td>
<td>6.4 (6.7)</td>
</tr>
<tr>
<td>Number of moderate crimes (4–8 years punishment threat)</td>
<td>3.6 (5.6)</td>
</tr>
<tr>
<td>Number of serious crimes (&gt; = 8 years punishment threat)</td>
<td>0.9 (1.2)</td>
</tr>
<tr>
<td>At least one prison sentence</td>
<td>1430 (74%)</td>
</tr>
<tr>
<td>Number of prison sentences</td>
<td>2.6 (3.7)</td>
</tr>
<tr>
<td>Time spent in prison (years)</td>
<td>2.3 (3.7)</td>
</tr>
<tr>
<td>Criterion case in organized crime</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>38.0 (9.8)</td>
</tr>
<tr>
<td>Prison sentence</td>
<td>705 (37%)</td>
</tr>
<tr>
<td>Length of prison sentence (years)</td>
<td>0.8 (1.8)</td>
</tr>
<tr>
<td>Role in criminal organization</td>
<td></td>
</tr>
<tr>
<td>Leader</td>
<td>217 (11%)</td>
</tr>
<tr>
<td>Coordinator</td>
<td>67 (3%)</td>
</tr>
<tr>
<td>Other role</td>
<td>1573 (82%)</td>
</tr>
<tr>
<td>Role unknown</td>
<td>64 (3%)</td>
</tr>
<tr>
<td>Type of organized crime*</td>
<td></td>
</tr>
<tr>
<td>Traditional drugs</td>
<td>611 (32%)</td>
</tr>
<tr>
<td>Synthetic drugs</td>
<td>156 (8%)</td>
</tr>
</tbody>
</table>

(continued)
Table 1 (continued)

<table>
<thead>
<tr>
<th>Mean (SD) / N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest educational level</td>
</tr>
<tr>
<td>Elementary education 278 (15%)</td>
</tr>
<tr>
<td>Prevocational education 205 (11%)</td>
</tr>
<tr>
<td>Selective secondary education 67 (4%)</td>
</tr>
<tr>
<td>Vocational training 236 (12%)</td>
</tr>
<tr>
<td>Higher education 91 (5%)</td>
</tr>
<tr>
<td>Unknown 1044 (54%)</td>
</tr>
<tr>
<td>Employed</td>
</tr>
<tr>
<td>Never during observation period 467 (24%)</td>
</tr>
<tr>
<td>0–0.5year 168 (9%)</td>
</tr>
<tr>
<td>0.5–3.0 years 388 (20%)</td>
</tr>
<tr>
<td>3.0–7.0 years 382 (20%)</td>
</tr>
<tr>
<td>&gt;7 years 516 (27%)</td>
</tr>
<tr>
<td>λ (mean number of employed days during the observation period) 93.4 (105.5)</td>
</tr>
<tr>
<td>Ever self-employed during observation period 536 (28%)</td>
</tr>
<tr>
<td>Mean income per observed year (in euros) 18,447 (22,417)</td>
</tr>
<tr>
<td>Mean income percentile per observed year 39.3 (23.7)</td>
</tr>
<tr>
<td>Proportion of observed years with positive income 0.8 (0.3)</td>
</tr>
<tr>
<td>Ever received social benefits during observation period 624 (34%)</td>
</tr>
<tr>
<td>Main property value 95,233 (227,938)</td>
</tr>
<tr>
<td>Total property value 224,043 (2,067,946)</td>
</tr>
<tr>
<td>Mortgage debt 199,469 (265,435)</td>
</tr>
<tr>
<td>Debts (other than mortgage) 82,951 (1,340,081)</td>
</tr>
</tbody>
</table>

All individuals are classified as being involved in one type of organized crime based on the primary offence in the criterion case.

Table 2  Life outcomes

<table>
<thead>
<tr>
<th>Mean (SD) / N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional + synthetic drugs 368 (20%)</td>
</tr>
<tr>
<td>Human smuggling 115 (6%)</td>
</tr>
<tr>
<td>Human trafficking 73 (4%)</td>
</tr>
<tr>
<td>Fraud and money laundering 389 (20%)</td>
</tr>
<tr>
<td>Cybercrime 22 (1%)</td>
</tr>
<tr>
<td>Other 169 (9%)</td>
</tr>
</tbody>
</table>

A sample was never legally employed during the observation period. Half of the sample was employed up to 7 years (out of 18 years observation) and only one out of four was employed more than 7 years. During the observation period, organized crime offenders were employed on average 93 days a year (25% of the year). Given that employment participation of the Dutch population fluctuated between 63.8 and 66.7% during the same period (1999–2016), employment in the organized crime
sample can be considered relatively low (Statistics Netherlands 2018). Employment participation is highest in early adulthood, but shows a steady decline from that point on (Fig. 2). Already before the age of retirement, employment dropped to 10%. In the middle of the observation period (2008), employment participation among 15–20 year-olds was 55%, topped at age 30–35 with 89%, was still 80% among 50–55 year-olds and decreased to 33% among 60–65 year-olds (Statistics Netherlands 2018). More than one out of four organized crime offenders were self-employed at some time between 1999 and 2016. No effect was found of employment on crime for the total sample (Table 3). The average income in the sample was 18,447 euros, which is at the 39th percentile. One out of three received a social benefit at some point during the observation period. The main property value is relatively low compared to the total property value and the average mortgage debt.
Descriptives of Role in the Criminal Organization

Now that the characteristics, offending careers, and life outcomes of the total sample have been examined, we go into more detail and distinguish between several subgroups within the sample. Within criminal groups, offenders can fulfill different roles. One out of 10 offenders acts as a leader of a criminal group, 3% fulfills a coordinating role, and 82% has another role within the criminal organization (Table 1). The role of 64 individuals (3% of the sample) is unknown. These individuals are therefore excluded from the analyses where individuals are distinguished based on their role in a criminal organization.

Link Between Employment and Crime: Leaders and Coordinators

Offenders with a coordinating role differ from leaders and others in most aspects related to their criminal life course. Compared to leaders and those with another role, coordinators are older at the time of their first crime, they commit less crimes (they are more often one-shot offenders and less often chronics [i.e. committing more than 10 crimes]). They also less often receive a prison sentence and spend less time in prison (Table 4). In sum, leaders seem to have more severe criminal careers in terms of frequency and seriousness than coordinators.

In line with these findings on the criminal careers, coordinators have better life outcomes than leaders on many aspects. Coordinators are more often higher educated than leaders and others (Table 5). Only 4% of the coordinators was never employed during the observation period, compared to 36% of the leaders and 24% of the others. Also, 43% of the coordinators worked for 7 years or more, compared to only 15% of the leaders and 28% of the others. On average, coordinators were employed 147 days a year, compared to 55 days (leaders) and 97 days (others). Coordinators also had a higher income and less often received social benefits.
Neither significant differences between the subgroups were found in the number of offenders that were self-employed, nor were any differences found in property values and debts between leaders, coordinators, and others.

Interestingly, both leaders and coordinators show a different pattern than is standard in the literature on the relationship between employment and crime: both for leaders and coordinators, a significant positive effect of employment on crime was found (Table 6, Model 3 and 4). Employment significantly increases offending with 31% for leaders and with 46% for coordinators. The only group that benefits from employment in the sense that they commit less crimes, are those with other roles; employment accounts for a crime reduction of 7% for this subgroup (Table 6, Model 5).

### Table 4 Offending distinguished by role in criminal organization

<table>
<thead>
<tr>
<th>Role</th>
<th>Leader (N = 217)</th>
<th>Coordinator (N = 67)</th>
<th>Other role (N = 1573)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD) / N (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at first crime***</td>
<td>26.7^A (9.2)</td>
<td>31.4^B (12.4)</td>
<td>26.3^A (10.3)</td>
</tr>
<tr>
<td>Age at criterion case</td>
<td>38.4 (8.8)</td>
<td>38.4 (9.5)</td>
<td>37.9 (10.0)</td>
</tr>
<tr>
<td><strong>Total criminal career</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One-shot offender**</td>
<td>9 (4%)</td>
<td>12 (18%)</td>
<td>139 (9%)</td>
</tr>
<tr>
<td>2–5 crimes*</td>
<td>61 (28%)</td>
<td>31 (46%)</td>
<td>479 (31%)</td>
</tr>
<tr>
<td>6–10 crimes</td>
<td>49 (23%)</td>
<td>16 (24%)</td>
<td>378 (24%)</td>
</tr>
<tr>
<td>&gt;10 crimes***</td>
<td>96 (45%)</td>
<td>8 (12%)</td>
<td>571 (36%)</td>
</tr>
<tr>
<td>Number of crimes***</td>
<td>12.0^A (11.5)</td>
<td>5.6^B (5.4)</td>
<td>11.1^A (11.5)</td>
</tr>
<tr>
<td>Violence*</td>
<td>1.0^AB (1.8)</td>
<td>0.4^A (1.0)</td>
<td>1.0^B (2.0)</td>
</tr>
<tr>
<td>Property†</td>
<td>2.6 (5.6)</td>
<td>1.2 (1.7)</td>
<td>2.3 (4.3)</td>
</tr>
<tr>
<td>Drugs***</td>
<td>1.2^A (1.4)</td>
<td>0.5^B (0.7)</td>
<td>0.8^C (1.3)</td>
</tr>
<tr>
<td>Other***</td>
<td>7.2^A (6.2)</td>
<td>3.5^B (3.8)</td>
<td>6.9^A (7.1)</td>
</tr>
<tr>
<td>Number of minor crimes (&lt; 4 years punishment threat)***</td>
<td>6.7^A (6.0)</td>
<td>3.2^B (3.7)</td>
<td>6.5^A (6.8)</td>
</tr>
<tr>
<td>Number of moderate crimes (4–8 years punishment threat)***</td>
<td>4.0^A (6.6)</td>
<td>1.6^B (2.4)</td>
<td>3.7^A (5.6)</td>
</tr>
<tr>
<td>Number of serious crimes (&gt; = 8 years punishment threat)***</td>
<td>1.3^A (1.3)</td>
<td>0.8^B (0.8)</td>
<td>0.9^B (1.3)</td>
</tr>
<tr>
<td>At least one prison sentence***</td>
<td>174 (80%)</td>
<td>37 (55%)</td>
<td>1178 (75%)</td>
</tr>
<tr>
<td>Number of prison sentences**</td>
<td>3.0^B (3.7)</td>
<td>1.0^B (1.5)</td>
<td>2.6^A (3.8)</td>
</tr>
<tr>
<td>Time spent in prison (years)***</td>
<td>4.4^A (5.0)</td>
<td>1.0^B (1.8)</td>
<td>2.1^A (3.5)</td>
</tr>
</tbody>
</table>

Significant difference between offenders fulfilling different roles are indicated per variable (*p < 0.10, *p < .05, **p < 0.01, ***p < .001). Within each row, different superscripts indicate a significant difference between offenders with different roles (p < 0.05). For example, A and B differ significantly; AB differs from neither A nor B.
Table 5  Life outcomes distinguished by role in criminal organization

<table>
<thead>
<tr>
<th></th>
<th>Leader (N = 217)</th>
<th>Coordinator (N = 67)</th>
<th>Other role (N = 1573)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD) / N (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Highest educational level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary education</td>
<td>31 (14%)</td>
<td>&lt;10</td>
<td>232 (15%)</td>
</tr>
<tr>
<td>Prevocational education</td>
<td>16 (7%)</td>
<td>&lt;10</td>
<td>179 (11%)</td>
</tr>
<tr>
<td>Selective secondary education</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>57 (4%)</td>
</tr>
<tr>
<td>Vocational training</td>
<td>14 (6%)</td>
<td>13 (19%)</td>
<td>200 (13%)</td>
</tr>
<tr>
<td>Higher education</td>
<td>&lt;10</td>
<td>11 (16%)</td>
<td>70 (4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>143 (66%)</td>
<td>31 (46%)</td>
<td>835 (53%)</td>
</tr>
<tr>
<td><strong>Employed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never during observation period</td>
<td>78 (36%)</td>
<td>3 (4%)</td>
<td>274 (24%)</td>
</tr>
<tr>
<td>0–0.5 year</td>
<td>18 (8%)</td>
<td>3 (4%)</td>
<td>141 (9%)</td>
</tr>
<tr>
<td>0.5–3.0 years</td>
<td>58 (26%)</td>
<td>13 (19%)</td>
<td>298 (19%)</td>
</tr>
<tr>
<td>3.0–7.0 years</td>
<td>30 (14%)</td>
<td>19 (28%)</td>
<td>321 (20%)</td>
</tr>
<tr>
<td>&gt; 7 years</td>
<td>33 (15%)</td>
<td>29 (43%)</td>
<td>439 (28%)</td>
</tr>
<tr>
<td>(\lambda) (mean number of employed days during the observation period)</td>
<td>54.6^A (75.7)</td>
<td>147.2^B (112.6)</td>
<td>96.7^C (107.3)</td>
</tr>
<tr>
<td><strong>Ever self-employed during observation period</strong></td>
<td>49 (23%)</td>
<td>18 (27%)</td>
<td>449 (29%)</td>
</tr>
<tr>
<td><strong>Mean income per observed year (in euros)</strong></td>
<td>14,098^A (19,156)</td>
<td>29,781^B (35,011)</td>
<td>18,573^C (22,149)</td>
</tr>
<tr>
<td><strong>Mean income percentile per observed year</strong></td>
<td>18.8^A (20.9)</td>
<td>37.7^B (29.9)</td>
<td>28.7^C (25.3)</td>
</tr>
<tr>
<td><strong>Proportion of observed years with positive income</strong></td>
<td>0.6^A (0.4)</td>
<td>0.8^B (0.3)</td>
<td>0.8^B (0.3)</td>
</tr>
<tr>
<td><strong>Ever received social benefits during observation period</strong></td>
<td>73 (37%)</td>
<td>10 (16%)</td>
<td>521 (35%)</td>
</tr>
<tr>
<td><strong>Main property value</strong></td>
<td>90,651 (250,493)</td>
<td>143,489 (193,774)</td>
<td>94,601 (228,528)</td>
</tr>
<tr>
<td><strong>Total property value</strong></td>
<td>192,581 (631,048)</td>
<td>217,794 (323,540)</td>
<td>232,745 (2,256,016)</td>
</tr>
<tr>
<td><strong>Mortgage debt</strong></td>
<td>200,457 (190,687)</td>
<td>254,321 (265,397)</td>
<td>196,769 (274,144)</td>
</tr>
<tr>
<td><strong>Debts (other than mortgage)</strong></td>
<td>45,128 (244,843)</td>
<td>54,061 (151,413)</td>
<td>91,432 (1,466,785)</td>
</tr>
</tbody>
</table>

Significant difference between offenders fulfilling different roles are indicated per variable (†p < 0.10, *p < .05, **p < .01, ***p < .001). Within each row, different superscripts indicate a significant difference between offenders with different roles (p < 0.05). For example, A and B differ significantly; AB differs from neither A nor B

aFor privacy reasons, frequencies lower than ten are not reported
Offending and Life Outcomes Distinguished by Type of Organized Crime

Descriptives of the Type of Organized Crime

Offenders do not only fulfill different roles within a criminal group, but are also involved in different types of organized crime (Table 1). The majority (60%) was involved in drug-related activities: traditional drugs (32%), synthetic drugs (8%) or both (20%). Smaller numbers were involved in human smuggling (6%), human trafficking (4%), or cybercrime (1%). One out of five was involved in organized fraud. Nine percent of the offenders was involved in other types of organized crime.

Link Between Employment and Crime: Different Types of Organized Crime

On average, offenders in each subgroup were involved in crime for the first time between age 24 and 30 (Table 7). However, drugs offenders (26 years) and those involved in other activities (24 years), were younger at time of their first offence than those involved in human trafficking (29 years), and fraud (30 years). At the time of the organized crime cases, offenders involved in organized fraud (39 years) were significantly older than those involved in human smuggling (32 years). During their criminal career, offenders involved in organized drug-related (12 crimes) or other activities (14 crimes) committed significantly more crimes than those involved in human smuggling (6 crimes), human trafficking (8 crimes), or organized fraud (9 crimes). Also, they committed more moderate and serious crimes than those involved in other organized crime activities. Relatedly, offenders involved in drug activities in organized crime, spent more time in prison during their lives than all other groups.

In terms of life outcomes, fraud offenders distinguish themselves from all other organized crime offenders. Compared to offenders in other types of organized crime activities (drugs, human smuggling, human trafficking, other activities),

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**Table 6** Effect of employment on crime differentiated by role in criminal organization

<table>
<thead>
<tr>
<th></th>
<th>Model 3 Leaders</th>
<th>Model 4 Coordinators</th>
<th>Model 5 Other role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>−.06* (.03)</td>
<td>.21*** (.06)</td>
<td>.06*** (.01)</td>
</tr>
<tr>
<td>Age²</td>
<td>.00 (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed (for at least a half year)</td>
<td>.27** (.10)</td>
<td>.38* (.18)</td>
<td>−.07* (.03)</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>−1807.45</td>
<td>−426.48</td>
<td>−13,832.14</td>
</tr>
</tbody>
</table>

†p < 0.10, *p < .05, **p < 0.01, ***p < .001
Table 7 Offending distinguished by type of organized crime

<table>
<thead>
<tr>
<th></th>
<th>Drugs (N = 1153)</th>
<th>Human smuggling (N = 115)</th>
<th>Human trafficking (N = 73)</th>
<th>Fraud (N = 389)</th>
<th>Other (N = 191)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD) / N (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at first crime***</td>
<td>25.7^AB (9.8)</td>
<td>27.7^AC (7.3)</td>
<td>29.1^C (9.8)</td>
<td>29.9^C (11.2)</td>
<td>24.3^B (11.1)</td>
</tr>
<tr>
<td>Age at criterion case***</td>
<td>38.9^A (10.1)</td>
<td>32.2^B (8.9)</td>
<td>35.0^AB (8.5)</td>
<td>38.6^AC (8.8)</td>
<td>35.5^BC (8.9)</td>
</tr>
</tbody>
</table>

Total criminal career

|                        |                  |                           |                            |                 |                 |
|------------------------|------------------|---------------------------|                            |                 |                 |
| One-shot offender***   | 71 (6%)          | 18 (16%)                  | 15 (21%)                   | 52 (13%)        | 16 (8%)         |
| 2–5 crimes***          | 315 (27%)        | 48 (42%)                  | 23 (32%)                   | 157 (40%)       | 50 (26%)        |
| 6–10 crimes†           | 287 (25%)        | 32 (28%)                  | 20 (27%)                   | 73 (19%)        | 44 (23%)        |
| >10 crimes***          | 473 (41%)        | 16 (14%)                  | 15 (21%)                   | 107 (28%)       | 81 (42%)        |
| Number of crimes***    | 11.9^A (11.4)    | 6.0^B (5.6)               | 7.9^B (8.8)                | 8.6^B (9.7)     | 13.8^A (15.1)   |
| Violence***            | 1.1^A (2.0)      | 0.3^B (0.7)               | 1.0^AB (2.2)               | 0.6^B (1.4)     | 1.6^C (2.5)     |
| Property***            | 2.2^A (3.9)      | 0.9^B (1.4)               | 1.4^AB (2.3)               | 2.0^AB (3.5)    | 4.1^C (8.1)     |
| Drugs***               | 1.2^A (1.4)      | 0.1^B (0.4)               | 0.1^BC (0.4)               | 0.4^BC (1.0)    | 0.6^C (1.2)     |
| Other***               | 7.4^A (7.3)      | 4.7^B (4.8)               | 5.4^AB (5.6)               | 5.7^B (6.2)     | 7.6^A (7.3)     |
| Number of minor crimes (< 4 years punishment threat)*** | 7.0^A (7.0) | 3.9^B (4.6) | 4.5^BC (5.4) | 5.3^BC (6.1) | 7.0^AC (6.9) |
| Number of moderate crimes (4–8 years punishment threat)*** | 3.8^A (5.3) | 1.8^B (1.8) | 2.5^AB (4.0) | 2.7^B (4.4) | 5.9^C (9.6) |
| Number of serious crimes (≥ 8 years punishment threat)*** | 1.1^A (1.3) | 0.3^B (0.5) | 0.9^AC (1.1) | 0.5^BC (1.1) | 1.0^A (1.5) |
| At least one prison sentence*** | 904 (78%) | 94 (82%) | 54 (74%) | 242 (62%) | 136 (71%) |
| Number of prison sentences*** | 2.9^AC (3.8) | 1.4^B (1.2) | 1.8^AB (2.6) | 1.7^B (3.1) | 3.5^C (5.1) |
| Time spent in prison (years)*** | 2.9^A (4.2) | 1.5^B (2.1) | 1.7^B (2.8) | 1.2^B (2.5) | 1.5^B (2.9) |

Organized crime case

|                        |                  |                           |                            |                 |                 |
|------------------------|------------------|---------------------------|                            |                 |                 |
| Prison sentence***     | 465 (40%)        | 62 (54%)                  | 26 (36%)                   | 91 (23%)        | 61 (32%)        |
| Length of prison sentence (years)*** | 1.1^A (2.1) | 0.8^AB (1.3) | 0.7^AC (1.8) | 0.2^C (0.7) | 0.4^BC (1.0) |

Significant difference between offenders fulfilling different roles are indicated per variable (†p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001). Within each row, different superscripts indicate a significant difference between offenders involved in different types of organized crime (p < 0.05). For example, A and B differ significantly; AB differs from neither A nor B.
organized fraud offenders attained a higher educational level, more often were employed and for longer periods of time, had higher incomes, less often received social benefits, and had substantially higher property values (Table 8). Although the absolute value of the debts of organized fraud offenders also is the highest out of the five groups, the difference with debts of the others groups did not reach significance. Also, no effect was found of employment on crime for any of the subgroups (Table 9).

**Offending and Life Outcomes Distinguished by Offending Trajectories Over the Life-Course**

**Description of Developmental Trajectories and Their Link to Offending Characteristics**

A six-group model was selected as the optimal model to fit the criminal careers of the 19133 organized crime offenders (Appendix A). Figure 3 provides a graphical representation of the criminal careers of the six distinguished groups. Offending characteristics of each of the six distinct groups are presented in Table 10. The first three trajectory groups are named after the specific onset ages of the developmental group. Their criminal pathways have similar shapes, but they started and peaked at different stages in life. First, early-onset offenders are, together with high-frequency offenders, the first to have started their criminal career at age 17. Around age 32, they were again one of the youngest trajectory groups at the time of the criterion case in organized crime. Nine out of ten early-onset offenders committed more than 10 crimes and 94% spent some time in prison during their careers. Mid-onset offenders started offending a couple of years later, but they resemble early-onset offenders in that they relatively often accumulated a large number of crimes (92% more than 10 crimes) and also relatively often were convicted to prison at least once (89%). Late-onset offenders committed their first crime only around age 28 and were halfway their 40s at the time of their criterion case in organized crime. Three out of four are chronics (> 10 crimes) and, on average, they also committed fewer crimes than those with an early- or mid-onset start in crime. A fourth trajectory group is labelled low-frequency offenders; they were 22 years old when they committed their first crime, and committed fewer crimes in their careers than the first three groups. Only 13% of the low-frequency offenders committed more than 10 crimes. High-frequency offenders started as early as early-onset offenders, but all committed more than 10 crimes, with an average of 47 crimes. They did not only commit the most minor crimes, but also the most moderate and serious crimes of all trajectory groups. All high-frequency offenders spent some time in prison and, on average, they also spent the most time in prison. Most individuals (33%) were

---

3The original sample contained 1921 offenders, but 8 offenders were excluded due to missing values.
Table 8  Life outcomes distinguished by type of organized crime

<table>
<thead>
<tr>
<th></th>
<th>Drugs (N = 1153)</th>
<th>Human Smuggling (N = 115)</th>
<th>Human trafficking (N = 73)</th>
<th>Fraud (N = 389)</th>
<th>Other (N = 191)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest educational level**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary education</td>
<td>176 (15%)</td>
<td>23 (20%)</td>
<td>12 (16%)</td>
<td>37 (10%)</td>
<td>30 (16%)</td>
</tr>
<tr>
<td>Prevocational education</td>
<td>132 (11%)</td>
<td>12 (10%)</td>
<td>&lt;10</td>
<td>28 (7%)</td>
<td>27 (14%)</td>
</tr>
<tr>
<td>Selective secondary education</td>
<td>34 (3%)</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>15 (4%)</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Vocational training</td>
<td>128 (11%)</td>
<td>≈10</td>
<td>&lt;10</td>
<td>44 (11%)</td>
<td>45 (24%)</td>
</tr>
<tr>
<td>Higher education</td>
<td>39 (3%)</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>28 (7%)</td>
<td>≈10</td>
</tr>
<tr>
<td>Unknown</td>
<td>644 (56%)</td>
<td>56 (49%)</td>
<td>42 (58%)</td>
<td>236 (61%)</td>
<td>66 (35%)</td>
</tr>
<tr>
<td>Employed†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never during</td>
<td>303 (26%)</td>
<td>31 (27%)</td>
<td>24 (33%)</td>
<td>73 (20%)</td>
<td>36 (19%)</td>
</tr>
<tr>
<td>observation period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–0.5 year</td>
<td>91 (8%)</td>
<td>10 (9%)</td>
<td>3 (4%)</td>
<td>32 (8%)</td>
<td>32 (17%)</td>
</tr>
<tr>
<td>0.5–3.0 years</td>
<td>228 (20%)</td>
<td>27 (32%)</td>
<td>19 (26%)</td>
<td>77 (20%)</td>
<td>37 (19%)</td>
</tr>
<tr>
<td>3.0–7.0 years</td>
<td>232 (20%)</td>
<td>16 (14%)</td>
<td>16 (22%)</td>
<td>83 (21%)</td>
<td>35 (18%)</td>
</tr>
<tr>
<td>&gt; 7 years</td>
<td>299 (26%)</td>
<td>31 (27%)</td>
<td>11 (15%)</td>
<td>124 (32%)</td>
<td>51 (27%)</td>
</tr>
<tr>
<td>λ (mean number of</td>
<td>89.6A (103.3)</td>
<td>88.1AB (108.9)</td>
<td>69.3A (89.1)</td>
<td>111.0B (112.2)</td>
<td>93.0AB (105.5)</td>
</tr>
<tr>
<td>employed days during the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>observation period)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever self-employed</td>
<td>315 (27%)</td>
<td>26 (23%)</td>
<td>15 (21%)</td>
<td>129 (33%)</td>
<td>51 (27%)</td>
</tr>
<tr>
<td>during observation period†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean income per observed year (in euros)***</td>
<td>16,819A (18,737)</td>
<td>14,824A (11,854)</td>
<td>11,062A (12,440)</td>
<td>25,680B (32,413)</td>
<td>18,085A (21,920)</td>
</tr>
<tr>
<td>Mean income percentile per observed year***</td>
<td>27.1A (24.0)</td>
<td>24.3AB (22.8)</td>
<td>17.9B (21.9)</td>
<td>33.0C (29.3)</td>
<td>28.8AC (24.7)</td>
</tr>
<tr>
<td>Proportion of observed years with positive income†</td>
<td>0.7 (0.3)</td>
<td>0.8 (0.3)</td>
<td>0.7 (0.4)</td>
<td>0.8 (0.3)</td>
<td>0.8 (0.3)</td>
</tr>
<tr>
<td>Ever received social benefits during observation period***</td>
<td>369 (34%)</td>
<td>55 (54%)</td>
<td>27 (43%)</td>
<td>95 (26%)</td>
<td>78 (42%)</td>
</tr>
<tr>
<td>Main property value***</td>
<td>78,928A (174,719)</td>
<td>37,138A (91,536)</td>
<td>37,591A (79,939)</td>
<td>172,584B (370,213)</td>
<td>86,174A (177,562)</td>
</tr>
<tr>
<td>Total property value*</td>
<td>148,028A (572,859)</td>
<td>52,492AB (147,573)</td>
<td>60,091AB (115,348)</td>
<td>531,494B (4,419,035)</td>
<td>189,318AB (925,298)</td>
</tr>
<tr>
<td>Mortgage debt</td>
<td>179,211 (278,524)</td>
<td>182,593 (81,950)</td>
<td>159,018 (121,406)</td>
<td>241,483 (255,484)</td>
<td>221,413 (262,968)</td>
</tr>
<tr>
<td>Debts (other than</td>
<td>42,278 (443,414)</td>
<td>3764 (21,084)</td>
<td>4552 (19,947)</td>
<td>239,102 (2,832,475)</td>
<td>80,326 (641,198)</td>
</tr>
</tbody>
</table>

Significant difference between offenders involved in different types of organized crime are indicated per variable (†p < 0.10, ∗p < .05, ∗∗p < 0.01, ∗∗∗p < .001). Within each row, different superscripts indicate a significant difference between offenders involved in different types of organized crime (p < 0.05). For example, A and B differ significantly; AB differs from neither A nor B
assigned to a trajectory group named sporadic offenders. At age 37, individuals assigned to this group had the latest onset age of all groups. One out of four sporadic offenders had no other judicial contacts than the criterion case in organized crime and only 1% committed more than 10 crimes in total. As we would expect from their low-frequency offending trajectory, sporadic offenders committed significantly less crimes (3 in total) and less often spent time in prison (56%) compared to all other offender groups.

Offenders assigned to trajectories with a lower offence frequency, seem to do better on employment outcomes. Low-frequency offenders and sporadic offenders, for example, are most often employed 7 years or more during the observation period, on average have higher numbers of employed days per year during the observation period, and also have higher incomes than individuals in most of the other trajectory groups (Table 11). High-frequency offenders have the lowest employment outcomes, together with the early- and mid-onset offenders; they are less often employed, have lower incomes, and more often received social benefits. No effect for employment on crime was found for any of the trajectory groups (Table 12).

**Table 9** Effect of employment on crime differentiated by type of organized crime

<table>
<thead>
<tr>
<th></th>
<th>Model 6 Drugs</th>
<th>Model 7 Human smuggling</th>
<th>Model 8 Human trafficking</th>
<th>Model 9 Fraud</th>
<th>Model 10 Other offence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.04** (.01)</td>
<td>.03 (.05)</td>
<td>.04 (.05)</td>
<td>.12*** (.02)</td>
<td>.08*** (.02)</td>
</tr>
<tr>
<td>Age²</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed (for at least a half year)</td>
<td>−.00 (.04)</td>
<td>−.20 (.18)</td>
<td>.02 (.18)</td>
<td>−.02 (.07)</td>
<td>−.10 (.09)</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>−10,231.07</td>
<td>−687.37</td>
<td>−512.77</td>
<td>−3027.56</td>
<td>−2050.00</td>
</tr>
</tbody>
</table>

†p < 0.10, *p < .05, **p < 0.01, ***p < .001

**Fig. 3** Developmental trajectories of offending from age 12 to 65
Table 10  Offending distinguished by trajectory group

<table>
<thead>
<tr>
<th></th>
<th>Early-onset offenders (N = 215)</th>
<th>Mid-onset offenders (N = 186)</th>
<th>Late-onset offenders (N = 232)</th>
<th>Low-frequency offenders (N = 573)</th>
<th>High-frequency offenders (N = 75)</th>
<th>Sporadic offenders (N = 640)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD) / N (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at first crime</td>
<td>16.7A (2.7)</td>
<td>19.6B (3.6)</td>
<td>28.1C (6.3)</td>
<td>22.3D (4.7)</td>
<td>16.4A (3.6)</td>
<td>36.8B (9.9)</td>
</tr>
<tr>
<td>Age at criterion case</td>
<td>32.3A (6.7)</td>
<td>37.3B (7.7)</td>
<td>44.7C (8.1)</td>
<td>32.7A (6.9)</td>
<td>36.8B (8.0)</td>
<td>42.5C (10.7)</td>
</tr>
<tr>
<td>Total criminal career</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One-shot offender</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>7 (1%)</td>
<td>0 (0%)</td>
<td>165 (26%)</td>
</tr>
<tr>
<td>2–5 crimes</td>
<td>1 (1%)</td>
<td>1 (1%)</td>
<td>3 (1%)</td>
<td>233 (41%)</td>
<td>0 (0%)</td>
<td>355 (56%)</td>
</tr>
<tr>
<td>6–10 crimes</td>
<td>19 (9%)</td>
<td>14 (8%)</td>
<td>57 (25%)</td>
<td>258 (45%)</td>
<td>0 (0%)</td>
<td>108 (17%)</td>
</tr>
<tr>
<td>&gt;10 crimes</td>
<td>195 (91%)</td>
<td>171 (92%)</td>
<td>172 (74%)</td>
<td>75 (13%)</td>
<td>75 (100%)</td>
<td>4 (1%)</td>
</tr>
<tr>
<td>Number of crimes</td>
<td>19.3A (6.9)</td>
<td>21.6B (7.8)</td>
<td>14.3C (5.9)</td>
<td>6.7D (3.2)</td>
<td>47.3E (16.7)</td>
<td>3.2B (2.3)</td>
</tr>
<tr>
<td>Violence</td>
<td>2.2A (2.1)</td>
<td>2.1A (2.2)</td>
<td>1.1B (1.5)</td>
<td>0.5C (0.8)</td>
<td>5.4C (4.6)</td>
<td>0.2D (0.5)</td>
</tr>
<tr>
<td>Property</td>
<td>4.6A (4.1)</td>
<td>3.6B (3.4)</td>
<td>1.9C (2.2)</td>
<td>1.0P (1.2)</td>
<td>16.2E (11.3)</td>
<td>0.6P (0.8)</td>
</tr>
<tr>
<td>Drugs</td>
<td>1.2A (1.4)</td>
<td>1.5AB (2.0)</td>
<td>1.3A (1.4)</td>
<td>0.7C (0.9)</td>
<td>1.8B (1.9)</td>
<td>0.4P (0.7)</td>
</tr>
<tr>
<td>Other</td>
<td>11.2A (5.4)</td>
<td>14.4B (6.0)</td>
<td>10.0A (5.1)</td>
<td>4.6C (2.7)</td>
<td>23.9D (12.3)</td>
<td>2.0E (2.0)</td>
</tr>
<tr>
<td>Number of minor crimes (&lt;4 years punishment threat)</td>
<td>10.4A (5.5)</td>
<td>13.7B (5.8)</td>
<td>9.7A (5.0)</td>
<td>4.2C (2.7)</td>
<td>21.9D (11.8)</td>
<td>1.8E (1.9)</td>
</tr>
<tr>
<td>Number of moderate crimes (4–8 years punishment threat)</td>
<td>7.3A (5.0)</td>
<td>6.4A (4.6)</td>
<td>3.7B (2.9)</td>
<td>1.8C (1.6)</td>
<td>22.4D (11.6)</td>
<td>1.0E (1.0)</td>
</tr>
<tr>
<td>Number of serious crimes (&gt; = 8 years punishment threat)</td>
<td>1.6A (1.6)</td>
<td>1.5A (1.5)</td>
<td>1.0B (1.1)</td>
<td>0.6C (0.8)</td>
<td>3.1P (2.4)</td>
<td>0.5E (0.6)</td>
</tr>
<tr>
<td>At least one prison sentence</td>
<td>203 (94%)</td>
<td>166 (89%)</td>
<td>200 (86%)</td>
<td>425 (74%)</td>
<td>75 (100%)</td>
<td>361 (56%)</td>
</tr>
<tr>
<td>Number of prison sentences</td>
<td>4.7A (3.1)</td>
<td>4.6A (3.8)</td>
<td>2.8B (2.6)</td>
<td>1.4C (1.4)</td>
<td>14.5D (7.2)</td>
<td>0.8E (0.9)</td>
</tr>
<tr>
<td>Time spent in prison (years)</td>
<td>3.6A (4.2)</td>
<td>3.9A (5.2)</td>
<td>2.9A (4.1)</td>
<td>1.8B (2.8)</td>
<td>6.8C (5.8)</td>
<td>1.1D (2.4)</td>
</tr>
</tbody>
</table>

Significant difference between the trajectory groups are indicated per variable (†p<0.10, *p<.05, **p<0.01, ***p<.001). Within each row, different superscripts indicate a significant difference between trajectory groups (p < 0.05). For example, A and B differ significantly; AB differs from neither A nor B. Link between offending trajectory and employment.
Table 11 Life outcomes distinguished by trajectory group

<table>
<thead>
<tr>
<th></th>
<th>Early-onset offenders (N = 215)</th>
<th>Mid-onset offenders (N = 186)</th>
<th>Late-onset offenders (N = 232)</th>
<th>Low-frequency offenders (N = 573)</th>
<th>High-frequency offenders (N = 75)</th>
<th>Sporadic offenders (N = 640)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Highest educational level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary education</td>
<td>40 (19%)</td>
<td>39 (21%)</td>
<td>29 (13%)</td>
<td>73 (13%)</td>
<td>22 (29%)</td>
<td>75 (12%)</td>
</tr>
<tr>
<td>Prevocational education</td>
<td>22 (10%)</td>
<td>25 (13%)</td>
<td>19 (8%)</td>
<td>85 (15%)</td>
<td>12 (16%)</td>
<td>42 (7%)</td>
</tr>
<tr>
<td>Selective secondary education</td>
<td>&lt; 10</td>
<td>&lt; 10</td>
<td>&lt; 10</td>
<td>&lt; 10</td>
<td>&lt; 10</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Vocational training</td>
<td>30 (14%)</td>
<td>17 (9%)</td>
<td>20 (9%)</td>
<td>84 (15%)</td>
<td>10 (13%)</td>
<td>75 (12%)</td>
</tr>
<tr>
<td>Higher education</td>
<td>12 (6%)</td>
<td>11 (6%)</td>
<td>15 (6%)</td>
<td>51 (9%)</td>
<td>&lt; 10</td>
<td>68 (11%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>111 (52%)</td>
<td>94 (51%)</td>
<td>149 (64%)</td>
<td>280 (49%)</td>
<td>30 (40%)</td>
<td>380 (59%)</td>
</tr>
<tr>
<td><strong>Employed</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never during observation period</td>
<td>42 (20%)</td>
<td>48 (26%)</td>
<td>77 (33%)</td>
<td>106 (19%)</td>
<td>18 (24%)</td>
<td>176 (28%)</td>
</tr>
<tr>
<td>0–0.5 year</td>
<td>26 (12%)</td>
<td>24 (13%)</td>
<td>23 (10%)</td>
<td>37 (6%)</td>
<td>22 (29%)</td>
<td>36 (6%)</td>
</tr>
<tr>
<td>0.5–3.0 years</td>
<td>53 (25%)</td>
<td>59 (32%)</td>
<td>50 (22%)</td>
<td>108 (19%)</td>
<td>20 (27%)</td>
<td>125 (20%)</td>
</tr>
<tr>
<td>3.0–7.0 years</td>
<td>50 (23%)</td>
<td>40 (22%)</td>
<td>42 (18%)</td>
<td>127 (22%)</td>
<td>11 (15%)</td>
<td>112 (18%)</td>
</tr>
<tr>
<td>&gt; 7 years</td>
<td>44 (21%)</td>
<td>25 (13%)</td>
<td>47 (20%)</td>
<td>195 (34%)</td>
<td>4 (5%)</td>
<td>201 (31%)</td>
</tr>
<tr>
<td>λ (mean number of employed days during the observation period)***</td>
<td>77.0A (84.5)</td>
<td>60.5AB (77.1)</td>
<td>70.5AB (95.0)</td>
<td>113.9C (110.4)</td>
<td>35.3B (53.5)</td>
<td>105.2C (115.4)</td>
</tr>
<tr>
<td>Ever self-employed during observation period†</td>
<td>55 (26%)</td>
<td>62 (33%)</td>
<td>80 (35%)</td>
<td>147 (26%)</td>
<td>17 (23%)</td>
<td>175 (27%)</td>
</tr>
<tr>
<td>Mean income per observed year (in euros)***</td>
<td>11,349 (13,048)A</td>
<td>13,503 (17,946)AB</td>
<td>18,722 (23,424)BC</td>
<td>18,271 (19,987)B</td>
<td>9907 (7959)A</td>
<td>23,576 (27,317)C</td>
</tr>
<tr>
<td>Mean income percentile per observed year***</td>
<td>31.3 (19.8)A</td>
<td>33.6 (21.2)AB</td>
<td>38.8 (23.5)BC</td>
<td>40.3 (23.7)C</td>
<td>27.0 (15.2)AB</td>
<td>44.6 (24.9)P</td>
</tr>
<tr>
<td>Proportion of observed years with positive income***</td>
<td>0.6 (0.3)A</td>
<td>0.7 (0.3)AB</td>
<td>0.7 (0.3)BC</td>
<td>0.7 (0.3)C</td>
<td>0.7 (0.3)AC</td>
<td>0.8 (0.3)P</td>
</tr>
<tr>
<td>Ever received social benefits during observation period***</td>
<td>83 (40%)</td>
<td>75 (41%)</td>
<td>59 (26%)</td>
<td>196 (37%)</td>
<td>43 (57%)</td>
<td>68 (28%)</td>
</tr>
</tbody>
</table>
This chapter focused on the criminal careers of 1921 offenders from the Dutch Organized Crime Monitor and analyzed delinquent development and relationships with socio-economic variables such as employment and income. Next to many detailed findings for various subgroups on the criterion case, development of offending, educational level, employment and income, the most important conclusions are the following. First, organized crime offenders, on average were 27 years

Table 11 (continued)

<table>
<thead>
<tr>
<th></th>
<th>Early-onset offenders (N = 215)</th>
<th>Mid-onset offenders (N = 186)</th>
<th>Late-onset offenders (N = 232)</th>
<th>Low-frequency offenders (N = 573)</th>
<th>High-frequency offenders (N = 75)</th>
<th>Sporadic offenders (N = 640)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD) / N (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Main property value</strong></td>
<td>49,961^A (127,912)</td>
<td>67,137^A (128,930)</td>
<td>110,671^A (232,233)</td>
<td>75,344^A (170,029)</td>
<td>17,308^A (62,634)</td>
<td>141,341^B (311,585)</td>
</tr>
<tr>
<td><strong>Total property value</strong></td>
<td>173,493 (986,225)</td>
<td>151,485 (571,628)</td>
<td>248,003 (986,861)</td>
<td>109,140 (315,236)</td>
<td>57,805 (312,941)</td>
<td>377,778 (3,484,204)</td>
</tr>
<tr>
<td><strong>Mortgage debt</strong>†</td>
<td>160,232 (158,204)</td>
<td>134,947 (122,165)</td>
<td>252,657 (539,334)</td>
<td>183,121 (169,941)</td>
<td>92,110 (103,100)</td>
<td>223,635 (231,597)</td>
</tr>
<tr>
<td><strong>Debts (other than mortgage)</strong></td>
<td>75,045 (625,224)</td>
<td>29,118 (202,548)</td>
<td>108,909 (895,649)</td>
<td>20,339 (180,173)</td>
<td>21,023 (167,805)</td>
<td>155,551 (2,235,473)</td>
</tr>
</tbody>
</table>

Significant difference between trajectory groups are indicated per variable (†p < 0.10, ∗p < .05, ∗∗p < 0.01, ∗∗∗p < .001). Within each row, different superscripts indicate a significant difference between trajectory groups (p < 0.05). For example, A and B differ significantly; AB differs from neither A nor B.

Table 12  Effect of employment on crime differentiated by trajectory group

<table>
<thead>
<tr>
<th></th>
<th>Model 11 Early-onset offenders</th>
<th>Model 12 Mid-onset offenders</th>
<th>Model 13 Late-onset offenders</th>
<th>Model 14 Low-frequency offenders</th>
<th>Model 15 High-frequency offenders</th>
<th>Model 16 Sporadic offenders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.26*** (.03)</td>
<td>.05* (.02)</td>
<td>.19*** (.02)</td>
<td>.21*** (.03)</td>
<td>.07** (.02)</td>
<td>.13*** (.03)</td>
</tr>
<tr>
<td>Age^2</td>
<td>−.01*** (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
<td>−.00*** (.00)</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed (for at least a half year)</td>
<td>.02 (.06)</td>
<td>.02 (.07)</td>
<td>−.00 (.07)</td>
<td>−.10 (.08)</td>
<td>−.05 (.10)</td>
<td>−.01 (.09)</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>−3713.70</td>
<td>−2549.63</td>
<td>−2805.67</td>
<td>−2786.22</td>
<td>−1728.77</td>
<td>−2745.58</td>
</tr>
</tbody>
</table>

†p < 0.10, ∗p < .05, ∗∗p < 0.01, ∗∗∗p < .001

Discussion

This chapter focused on the criminal careers of 1921 offenders from the Dutch Organized Crime Monitor and analyzed delinquent development and relationships with socio-economic variables such as employment and income. Next to many detailed findings for various subgroups on the criterion case, development of offending, educational level, employment and income, the most important conclusions are the following. First, organized crime offenders, on average were 27 years...
old when their first judicial contact took place and, compared to the traditional age-crime curve (e.g. Gottfredson and Hirschi 1990), offending stayed relatively high and only started dropping to a lower level from age 50 on. This is similar to findings in previous studies on Dutch organized crime offenders, in which age of onset ranges between 24–27 (Kleemans and De Poot 2008; Van Koppen et al. 2010a. Also Savona et al. (2020), find that mafia members committed their first crime at on average age 25. Their analysis of trajectories reveals roughly similar patterns, with a small group of persistent high-frequency offenders. In studies in the UK and Australia, organized crime offenders are slightly younger at their first offence, but this is also true for general offenders (Francis et al. 2013; Fuller et al. 2019). Second, no effect was found of employment on crime for the total sample. This finding is markedly different from earlier studies on general offender samples, that identified an effect of employment on crime (Van der Geest et al. 2011; Laub and Sampson 2003). Studies on white-collar crime offenders, however, show that employment can also provide specific opportunities that lead offenders into crime (Weisburd et al. 2001; Van Onna 2018). Similarly, in organized crime certain occupations may present opportunities for committing crimes, for example through travel movements or international contacts, and depending on the nature of the occupation, the effect of employment on crime may be differential. Third, interesting findings emerged from analyses where individuals were distinguished based on their role in a criminal organization. Both leaders and coordinators show a different pattern than is standard in the literature on the relationship between employment and crime: both for leaders and coordinators, a significant positive effect of employment on crime was found. Employment significantly increases offending with 31% for leaders and with 46% for coordinators. The only group that benefits from employment, are those with other roles; employment accounts for a crime reduction of 7% for this subgroup. Fourth, no effect was found of employment on crime for subgroups distinguished by type of organized crime activity. Fifth, trajectory analyses resulted in the selection of a model with six groups: high-frequency offenders (3.9%), early-onset offenders (11.2%), mid-onset offenders (9.7%), late-onset offenders (12%), low-frequency offenders (29.8%), and sporadic offenders (33%). Sixth, offenders assigned to trajectories with a lower offence frequency, seem to do better on employment outcomes. No effect for employment on crime was found for any of the trajectory groups. This study describing long-term criminal career characteristics and differential effects of employment on crime in a sample of organized crime offenders, has added new findings to literature on work and crime. Work settings may provide new opportunities for organized crime activities, as is demonstrated by qualitative research (e.g. Kleemans and Van de Bunt 2008; Madarie and Kruisbergen 2020). Therefore, the received wisdom that employment has a preventive effect on crime does not seem to hold for careers in organized crime. An interesting finding is that the effect of employment may differ for different roles in criminal organizations. Both for leaders and coordinators, we found that employment actually increases offending, whereas for other roles employment led to a (small) reduction in crime. Testing to what extent the effect also differs by the type of occupation was beyond the scope of this chapter, and
also the role of self-employment in organized crime remains largely unknown. These findings call for more research on the link between employment and organized crime.

Acknowledgements  The data used in this chapter are part of a continuing research project, the Dutch Organized Crime Monitor, combined with information from the Dutch Judicial Documentation System and Statistics Netherlands. We are grateful to all past and present members of the Dutch Organized Crime Monitor research group for their efforts and particularly to Edwin Kruisbergen for his contribution to this specific study. We also thank the members of the Recidivism Monitor team of the Research and Documentation Centre and our contact persons at Statistics Netherlands for their data deliveries and helpful support to this study.

Bayesian Information Criterion Values per Model

<table>
<thead>
<tr>
<th>Number of groups</th>
<th>Bayesian Information Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>−49,603.19</td>
</tr>
<tr>
<td>2</td>
<td>−46,259.48</td>
</tr>
<tr>
<td>3</td>
<td>−45,667.88</td>
</tr>
<tr>
<td>4</td>
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Zero-Inflated Poisson quadratic model with six groups

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<th>Group</th>
<th>Early-onset Offenders</th>
<th>Mid-onset Offenders</th>
<th>Late-onset Offenders</th>
<th>Low-frequency Offenders</th>
<th>High-frequency Offenders</th>
<th>Sporadic Offenders</th>
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Estimated model parameters

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<td>2.01*</td>
<td>−.41*</td>
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<tr>
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<td>−.49*</td>
<td>2.77*</td>
<td>−.40*</td>
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Model characteristics\(^a\)

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<td>.86</td>
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\(^a\) p < .05

\(^a\)Based on a six-group model
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