



# Crime and Terror: Examining Criminal Risk Factors for Terrorist Recidivism

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## Abstract

**Objectives** The number of individuals incarcerated for terrorism offences in the West has grown considerably in recent years. However, unlike the extensive literature on recidivism for ordinary criminal offenders, little is known about recidivism for terrorism offenders. Given that many terrorism offenders are to be released in the coming years, the Israeli case is used to explore possible insights into the recidivist characteristics of terrorism offenders.

**Methodology** Using a unique dataset of terrorism offenders from Jerusalem provided by the Israeli Prison Service, proportional hazards regressions were used to assess the risk of terrorism-related recidivism for first-time and repeat terrorism offenders by examining factors related to incarceration history and other background factors known to be relevant for criminal recidivism.

**Findings** The recidivism rate of terrorism offenders is higher than that for ordinary criminal offenders but follows similar patterns: sentence length and age upon release reduce risk of recidivism, while affiliation with a terrorist organization significantly increase it. For repeat offenders, recidivism to a new terrorism offense increases with the number of prior terrorism-related incarcerations and decreases with the number of additional incarcerations for regular criminal offences. While marital status affected recidivism of first-timers, it had no significant effect for repeat offenders. The effects of offence type for prior incarcerations were similar in the two analyses.

**Conclusions** Many factors, including sentence length, age, and prior terrorist criminal records show similar impacts upon terrorist offenders. However, others have opposing impacts. While prior criminality is a known risk factor for criminal offenders, recidivism of terrorists into further terrorism involvement is inhibited by prior criminal records as opposed to prior records for terrorism. Marital status, generally seen as an inhibitor of criminality increases re-offending for the first offender group. This might be explained by the financial incentives that terrorism offenders and their families receive from the Palestinian Authority.

**Keywords** Terrorism · Recidivism · Israel

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## Introduction

In the wake of a wave of terror attacks across western countries in recent years, authorities have carried out extensive crack-downs that have led to the prosecution and incarceration of large numbers of individuals for crimes under terrorism laws. While the incarceration of terrorism offenders is certainly not a new experience, the impending release of potentially hundreds of radical offenders within a relatively short time frame has as yet unknown consequences. In France, between 40 and 50 terrorism offenders and hundreds of known radicals are set to be released in the coming year. By 2020, 60% of all terrorism offenders currently held in French prisons will have been released (Hecker 2018; Rekawek et al. 2017). In the UK, as reported by *The Guardian* in June 2018, “the number of individuals released could be much higher as prisoners are eligible for release halfway through their sentence”. A recent report by Globsec predicts that the majority of terrorism offenders in prison as of 2015 will be released by 2023, with the average prison sentence being just above 8.5 years (Rekawek et al. 2018). Similarly, Clifford (2018) reports that a large number of terrorism offenders are set to be released in the US by the same year.

While most western countries express some degree of worry about the possibility of terrorist recidivism, there is considerable debate as to the actual level of threat posed by post-release terrorism offenders. As Former U.S. State Department intelligence analyst Dennis Pluchinsky (2008) has written, while there is anecdotal evidence to suggest a tendency for released terrorists to return to terrorist activities, no comprehensive statistics on terrorist recidivism exist. He advocates that research into the phenomenon of terrorist recidivism represents an important gap in the body of knowledge. Unfortunately, research on terrorism recidivism has been inhibited by a range of methodological issues, such as low base rates and a lack of sufficient longitudinal data on incarcerated terrorists. Like with other areas of terrorism research, governmental data has mostly not been shared with researchers (Fahey 2013; Sageman 2014). As such, like many other areas of terrorism research, there may be great value in looking to specific case studies for which such data is available and which can potentially provide important lessons and insights (Dicter and Byman 2006).

One country that has repeatedly been examined in the criminological research on terrorism is Israel (e.g. Jonathan 2009; Weisburd et al. 2009; Dugan and Chenoweth 2012; Perry et al. 2017). Over the decades Israel has dealt with a variety of terrorism threats, from guerrilla wars to two “intifadas” (violent popular uprisings), and mini-wars with groups such as Hamas (and other Palestinian terror groups) in Gaza and Hezbollah in Lebanon. However, since the end of the second intifada, the primary terrorism threat has come to more closely resemble developments experienced in other contexts. Namely that terror attacks are increasingly carried out by lone attackers and small, semi-autonomous cells, even if they are affiliated with an organization. While many attackers in Israel are still linked or associated with one of the primary terror groups, such as Fatah, the secular Popular Front for Liberation of Palestine (PFLP), or the religious jihadist groups such as Hamas and Islamic Jihad, like in other western countries, there have been a growing number of attackers who are unaffiliated with any organization (Ganor 2011; Perry et al. 2018).

Given that Israel experiences more terrorism than any of the modern, western-style democracies, it serves as a valuable case study (Peffley et al. 2015; Freilich 2015). While many in the US, Europe and elsewhere have expressed concern about the prospects for terrorists to recidivate, there is already some evidence that Palestinian terrorism offenders have a tendency towards returning to terrorist activities post-release (Weiner 2015; Yeini 2018).

Due to the large number of terrorism offenders that have been imprisoned in Israel over a relatively long period of time, using Israel as a case study to examine terrorist recidivism also helps to overcome the issues of low base-rates that impede much of terrorism research (Gill et al. 2016). For example, according to EUROPOL's Terrorism Situation and Trend Reports (TE-SAT) published annually from 2007 to 2018, France, the UK, and Spain had 604, 623, and 1596 individuals convicted of terrorism respectively. During this same time frame, a total of 4235 individuals were convicted of terrorism offences across all EU member states.<sup>1</sup> By contrast, as per the data used in this study, between the years 2004–2017 over 22,000 individuals have been incarcerated by the Israeli Prison Service for sentences pertaining to terrorism-related charges.

The Israeli case provides an added advantage in that a centralized database is operated by the Israel Prison Service (IPS), who is in charge of all criminal and terrorist incarcerations, and while collects all incarceration data in a single, uniform system. This means that IPS data tracks a range of individual level factors across the careers of terrorism offenders. The current study takes advantage of a unique dataset provided by the IPS of terrorism offenders from Jerusalem to address two important gaps in the literature. First, we establish base rates for recidivism to terrorism offending. Second, drawing on the established literature of criminal recidivism, a range of incarceration and background related factors are examined for their effects on terrorist recidivism for both first-time and repeat offenders.

## The Crime-Terror Nexus

Terrorist and criminal offenders have traditionally been viewed as two distinct categories (Clarke and Newman 2006; Lafree and Dugan 2004), with the former seeking to effect some sort of change, and the latter pursuing more personal goals (Hoffman 1998). However, this traditional position has been challenged in recent years as researchers have increasingly found that on the one hand, not all terrorists commit their acts for general political or ideological causes, and on the other, some criminals commit their crimes for reasons of ideology, passion, or statement making (Black 1983; Weisburd 1989). Similar to gang members, members of terrorist groups and networks may have joined in the pursuit of familiar criminal goals such as status seeking, group support, or even economic benefits (Clarke and Newman 2006; Lloyd and Kleirot 2017). Terrorist groups may also be especially attractive to those with criminal propensities because they may offer ways to satisfy criminal aims, objectives, and needs (Lloyd and Kleirot 2017; Horgan 2003; Clarke and Newman 2006; Basra and Neumann 2016). Recent studies on self-reported radical violence have found correlations with traditional criminogenic factors such as low self-control, thrill seeking behaviour, and impulsiveness indicating that criminal propensities are present among those who carry out radical violence (De Waele and Pauwels 2014; Pauwels and Schils 2016; Pauwels and Svensson 2017; Baier et al. 2016).

Perhaps on account of representing the same demographic of individuals with specific criminogenic tendencies, or for other reasons, terrorists and criminals tend to emerge from the same pool of the population (Laqueur 1977; McCauley and Segal 1987; Basra and Neumann 2016). One possible explanation for this overlap is that terrorist groups may actively

<sup>1</sup> We calculated these numbers from all TE-SAT reports which can be found at <https://www.europol.europa.eu/activities-services/main-reports/eu-terrorism-situation-and-trend-report#fndtn-tabs-0-bottom-2>.

recruit criminals who perhaps possess some transferable skills or behavioural attributes considered to be useful, such as a capacity for violence or the ability to handle weapons and explosives. Another possibility that has been put forth is that criminals may turn to terrorism as some form of a ‘born again’ style of repentance (Basra and Neumann 2016, 2017; Lakhani 2018; Lloyd and Kleinot 2017). Whatever the case may be, there are significant overlaps between criminal and terrorist activities, including murders and kidnappings (Clarke and Newman 2006), motor vehicle violations (Hamm and Van de Voorde 2005), robberies and extortion (Horgan 2003), arms smuggling (Curtis and Karacan 2002; Gheordunescu 1999), drug trade (Berry et al. 2002) and transnational organized crime (Makarenko 2004; Schmid 1996). These types of crime may provide means for financing terrorism, although that may not necessarily be the reason in all cases (Hutchinson and O’Malley 2007; Pieth 2002; Basra and Neumann 2016).

In recent years, an increasingly key feature of the backgrounds of radical offenders has been criminal history. In Europe, as much as half of terrorism offenders have known criminal pasts (Ljujic and Weerman 2017; Rostami et al. 2018; Bakker 2006, 2011; Bakker and de Bont 2016; Weenink 2015; De Poot et al. 2011; Basra and Neumann 2016; van Leyenhorst and Andreas 2017; Boncio 2017; Heinke 2017). In the US, a large number of terrorism offenders have also been found to have criminal histories, however prior offences are mostly unrelated to terrorism (LaFree et al. 2018; Smith 2018; Horgan et al. 2016; Jasko et al. 2017).

Despite the similarities, it cannot be ignored that many terrorists, and in fact the majority, do not have criminal records. In many cases terrorists may come from more middle-class and even higher class socio-economic backgrounds. It has been argued that in more longstanding conflicts, such as the Israeli-Arab conflict, terrorists are less likely to come from the lower classes (Gambetta and Hertog 2017). In Europe this was also said to have been the case (Russell and Miller 1977; Clark 1983) and it is only in more recent years that terrorists have increasingly emerged from these lower-classes, among whom criminal histories have a higher prevalence (Bakker 2011).

Previous studies have noted that some terrorism offenders may start out with other forms of radical activity and later progress to more violent and lethal forms (Richardson et al. 2017). As an example, Michael Adebolajo, one of the perpetrators of the 2013 beheading of Lee Rigby in the UK, was a known activist with the now outlawed Al-Muhajiroun group and was involved in numerous protests, street preaching, and other forms of radical activism. Conversely, his accomplice Michael Adebowale was known for his juvenile criminal history and gang ties (Pantucci 2014). A number of members of Al-Muhajiroun activists had been arrested for non-terrorist offences stemming from their activism (Wiktorowicz and Kaltenthaler 2006) but over the years have gone on to become terrorists and foreign fighters (Pantucci 2010; Vidino 2015). Spanish judge Juan Cotino previously comments with regards to Basque youth that they “start out throwing rocks, then Molotov cocktails, and eventually pick up a pistol or wire a car-bomb”.<sup>2</sup> While it is important to note that some criticize this escalation model, and that low-level radical activity is not a necessary precursor for terrorism involvement (McCauley and Moskalenko 2017), it is clear that there are a variety of reasons why terrorism offenders may have incarceration histories.

<sup>2</sup> Quoted in Drago, T., *Spain, Judge Garzon Swoops Down on ETA Youth Group*, Inter Press Service News Agency, 6 March 2001, accessed on 21 August 2018 at <http://www.ipsnews.net/2001/03/spain-judge-garzon-swoops-down-on-eta-youth-group/>.

While the literature on recidivism has dealt extensively with examining the types of factors and offences that predict recidivism to similar or different future offences, little is known about what factors may predict future terrorism offending specifically. Given the many similarities and the overlap between terrorists and criminals, and that many terrorists have criminal histories for a range of offences, it is appropriate to ask whether terrorists may display similar recidivism patterns to those of ordinary criminals. It is clear that many terrorism offenders are already recidivists insofar as that they have previously been incarcerated for a range of different offences. While the focus of recidivism research is usually on examining the likelihood of individuals returning to any type of offending or incarceration, in the case of terrorism the primary concern and focus is on the possibility that previously incarcerated terrorists will recidivate to terrorism (Altier et al. 2012).

## Recidivism and Terrorism

While terrorism scholarship often suffers from a lack of empirical research more generally (Sageman 2014), one of the most challenging areas of study has been the study of terrorist recidivism (Veldhuis and Kessels 2013; Pluchinsky 2008). As Schuurman and Bakker (2016:66) highlight, “reliable data on recidivism rates among extremists and terrorists tends to be scarce and anecdotal”. For example, In Sageman’s (2004) account of 172 Jihadist terrorism offenders, none had prior terrorism related offences. In Bakker’s (2006) study of 242 Jihadist terrorists, he found that 2.5% had prior terrorism-related offences. A study of security offenders released in Israel in 2008 found that 7.9% were re-incarcerated on an additional security offence charge within 5 years, although an additional 13.6% were re-incarcerated for unspecified violence charges (Walk and Berman 2015). In Indonesia, basic estimates put the terrorist recidivism rate at about 15% although 30% of those arrested in raids in 2010 had previously been incarcerated for terrorism offences (Ismail and Sim 2016). According to the most recent bi-annual report by the U.S. Department of National Intelligence, just over 30% of former Guantanamo Bay inmates are either confirmed or suspected of having recidivated (DNI 2018). A recent study of 170 terrorists found that 60% had recidivated after being released from prison or having previously displayed disengagement (Altier, Boyle and Horgan, Forthcoming). As such, recidivism rates for terrorists have a great range, from a few percent to numbers similar to recidivism rates in democratic countries which often sit at around 50% (Fazel and Wolf 2015).

The most commonly referred to recidivism statistics tend to come from de-radicalization and desistance program evaluations and reports. One of the most commonly cited cases is that of Saudi Arabia. While the program once claimed a 100% success rate, indicate suggests that recidivism rates are between 10 and 20% (Porges 2010). Speaking to the The Center for Strategic and International Studies, Mohamed Salah Tamek of the Penitentiary and Reintegration Administration (Morocco) claimed that among graduates of a Moroccan program, the recidivism rate was 48%. This is similar to the numbers of the long failed Yemeni program which is believed to have had a recidivism rate upwards of 50% before its demise (Seifert 2010). In the west however, a recent evaluation of a program from the Netherlands had a recidivism rate of 4.2% (van der Heide and Schuurman 2018).

However, figures such as these may be misleading for several reasons. Estimations of terrorist recidivism rates are derived mostly from studies assessing the effectiveness of de-radicalization programs. While useful for establishing causes and risk factors for recidivism, program evaluations do not provide accurate baseline recidivism rates as they only

include ‘treated’ offenders (Veldhuis and Kessels 2013; Pluchinsky 2008). Additionally, observation periods may be quite short—up to 2 years—(Altier et al. 2012) and don’t provide enough time for offenders to ‘show their true colors’ (Greenberg 1991:22). Moreover, issues related to the quality of available data such as completeness, accuracy, and consistency can lead to the production of overly conservative estimates of recidivism rates (See 2018).

There are also additional considerations when assessing the meaningfulness of these numbers. While the numbers from the Saudi program appear to be quite low, almost all members of the terrorism most wanted list are graduates of the program (Stern 2010; Silke 2014; Porges 2010). Moreover, the Saudi program only releases those inmates who renounce their radical ideologies, approximately half of all terrorism inmates. The program therefore does not include those offenders considered to be the most radical or highest risk (Boucek 2008). Moreover, while 10–20% recidivism is quite low by Western standards, it is widely held (in the absence of hard statistics) that Saudi Arabia has an exceptionally low crime rate and an even lower recidivism rate to begin with (Ebbe and Odo 2013).

With little knowledge about what terrorism recidivism rates look like, even less is known about what the risk factors for recidivism are (Fahey 2013; Veldhuis and Kessels 2013; Ahmed 2016). The criminological literature has consistently identified a range of risk and protective factors that contribute to criminal recidivism. While factors such as marital status and age at time of release are generally regarded for their protective effects in reducing the likelihood of recidivism (Sampson et al. 2006), the evidence for factors such as sentence length, and whether longer sentences have a more deterrent or criminogenic effect are quite mixed (Mears et al. 2015; Rydberg and Clark 2016; Mitchell et al. 2017; Liem 2013), especially when controlling for offence type (Rydberg and Clark 2016).

The theoretical bases for many of these factors and their relationship with recidivism are generally found in social control perspectives on offending and desistance. These age-graded control theories suggest that as offenders age they develop more social bonds and obligations which inhibit offending. Life events, that tend to be associated with age—such as marriage—may change the course of criminal trajectories and lead to desistance (Sampson and Laub 1990; Laub and Sampson 1993). While social bonds have been found to be negatively associated with incidences of self-reported radical violence (Baier et al. 2016), with scant evidence regarding terrorist recidivism, it is difficult to determine if such factors play a similar role as they do for ordinary criminals (Veldhuis and Kessels 2013; Schuurman and Bakker 2016). In a recent study examining terrorist recidivism, Altier et al. (Forthcoming) found that marriage and having children did not act as a protective factor. In fact, in many cases the spouse was supportive of the radical behaviors and as such marriage was actually found to positively predict recidivism.

Of key relevance to the study of terrorist recidivism, the literature indicates that offence type is a determinant of other factors’ effects on recidivism. For offences that are rarer and lower in frequency, risk factors of recidivism may operate quite differently than for general criminal offending (Soothill et al. 2002). Additionally, ideological offenders, especially for whom a hate component involved in the targeting of their victims, may be at a greater risk for recidivism (Dunbar 2003), and have risk factors operating in a unique fashion (Dunbar et al. 2005). For example, recidivism rates for hate crimes, which have been referred to as a ‘distant cousin’ of terrorism (Deloughery et al. 2012; Mills et al. 2017), have been found to be as high as 80% in Europe (Weinböck et al. 2012; Weinböck 2013). In diminishing the hate component through treatment and intervention, it is possible that recidivism rates of

hate-crime offenders can be reduced by more than half. According to the results of an evaluation of a prison-based program in Germany that handled 700 right-wing youth charged with hate crimes, recidivism rates were cut down to 30% compared to 78% (Iganski et al. 2011). Another evaluation of a different group of participants in the program found a 13.3%, compared to 41.5% for those who did not receive the training (Lukas 2012). Given that terrorism is considered to be a unique, rare, and low-frequency offence often motivated by ideology and hate that is difficult to combat, it is possible that risk factors for recidivism may also differ in important ways compared to ordinary, general offending.

Two other types of offenders that may provide additional insights are gang members and guerilla fighters. Gang members, who terrorists have previously been compared to (Bovenkerk 2011; Decker and Pyrooz 2011, 2015; Valasik and Phillips 2017), are at an increased risk of recidivism compared to non-gang members (Dooley et al. 2014; Trulson et al. 2012; McShane et al. 2003; Olson et al. 2004; Huebner et al. 2007). Among hate crime offenders, those who are members of hate groups and gangs also demonstrate greater recidivism (Dunbar et al. 2005). In a study of more than 1000 Columbian guerillas, group affiliation positively predicted recidivism to guerrilla offending, whereas family ties and obligations inhibited it. However, many of the offenders turned to ordinary crime after their involvement in the guerrilla groups. Ideology and motivation related factors predicted turning to ordinary crime which inhibited returning to guerrilla fighting (Kaplan and Nussio 2018). There is also some evidence that terrorism offenders may turn to criminal offending post-release (Rekawek et al. 2017; Gallagher 2016). Accordingly, observed desistance from terrorism may be the result of a re-direction, or displacement of terroristic behaviours towards something else (Horgan 2009). Such a possibility would be in line with the hypothesis that both crime and terrorism may offer fulfilment of criminogenic needs to those with high criminal propensity (Lloyd and Kleinot 2017; Clarke and Newman 2006).

In a multivariate analysis of released Guantanamo Bay detainees, Fahey (2013) found that only the amount of time elapsed since release had a significant effect on recidivism. The finding that time at risk was a significant predictor of recidivism indicated that terrorist recidivism patterns contain certain elements that are similar with criminal recidivism (Altier et al. Forthcoming). While other factors such as age and organizational affiliation were tested, they were found to have no significant effect on recidivism. No other incarceration related factors were tested in this research. Importantly, the author points out that to the best of her knowledge there are no other empirical analyses on recidivism of terrorism offenders. With the little evidence that currently exists, it remains unknown as to which factors may predict recidivism for terrorism offenders and how (Ahmed 2016).

## The Current Study

In this study, we seek to (1) establish base rates for terrorist recidivism for an Israeli sample, and (2) test the effects of routinely examined factors that are known to affect criminal recidivism in the context of released terrorists. Moreover, the study sought to test how incarceration histories for both criminal and terrorist offences affect the likelihood of recidivism to terrorism offending.

## Methods

### Data

The data for this study was obtained from the Israel Prison Service (IPS). Terrorist offenders, defined as those who ‘committed an obvious attack on national security or other illegal activities related to nationalistic ideology’, 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, 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 security 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 the analysis.

The majority of prisoners classified as security offenders are residents of either the West Bank or Jerusalem. Since 1967, East Jerusalem (where the majority of the population are Palestinian residents) has been under full Israeli control, hence, the Israeli criminal justice system and other security agencies carry out enforcement against both criminal and terrorist offences in the city. Following the Oslo Accords in 1993, the Palestinian Authority (PA) was given responsibility for the enforcement of criminal law over most of the Arab population in the West Bank (Tartir 2015). Given the lack of access to the PA’s criminal incarcerations data, and our analysis’ focus on the relationship between criminal and terrorist incarcerations on recidivism, it was necessary to exclude the West Bank security prisoners from this study. By limiting the analysis to Jerusalem resident prisoners, it was possible to ensure that the full data on terrorist and criminal incarcerations was included.

### Variables

The data included a number of variables relating to each individual incarceration case which are known to affect criminal recidivism. While certain risk factors are invariant (such as age at first incarceration) others are dynamic (such as prior criminal and security incarcerations). Unfortunately, data on factors such as education and employment was incomplete and contained too many missing points to be included in the analysis.

*Recidivism* While re-incarceration is sometimes considered to be a limited measure of recidivism, it is acknowledged to be the primary means by which recidivism can be measured (National Research Council 2007). High-risk criminals, and even more so more so terrorists, often remain under increased scrutiny and surveillance after release. It is therefore reasonable to assume that given enough time, a return to offending activities has a high likelihood of resulting in apprehension. Given that the current study has an observation period of over a decade, there is a sufficient amount of time to examine recidivism using re-incarceration as a measure.

*Age at Time of Incarceration/Release* While the IPS holds official governmental data pertaining to age, the IPS provided ages in months, so as to anonymize the data. As such,



we calculated age at incarceration/release according by combining this data with the sentence length data.

*Sentence Length* Sentence length was calculated as the number of weeks between the start and end of incarceration dates included in the data.

*Offence Type* For each incarceration the offence type was coded according to the categories used by the Israeli National Police: public disorder, violence (assaults and other similar offences), murder and manslaughter, property crime, and national security offences.<sup>3</sup> 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. Since each incarceration could have been for several offenses from different categories, each offense category was coded separately.

*Organizational Affiliation* Most security prisoners are known by the IPS<sup>4</sup> to be affiliated with one of the primary organizations linked to the Israeli-Palestinian conflict, Fatah and Hamas, although 36.8% remained unaffiliated. The number of prisoners affiliated with smaller organizations was negligible (14 prisoners, 0.9%). As such, in this study, only affiliations with Fatah and Hamas were coded.

*Marital Status* The IPS data includes four categories for marital status: Single/never married, married, divorced, and unknown. In order to receive family visits, prisoners are required to report their marital status and the identity of their spouses. In case of refusal to report marital status, the prisoner's status is marked "unknown".<sup>5</sup> Marital status was coded as a categorical factor, using "single" as the reference category.

## Sample

The data included 1585 unique offenders and 2312 incarcerations for a combination of criminal and security offences. The data also include 28 female security prisoners (1.8% of the data), however since they differed greatly from male prisoners, and their number was too small to test for the effects of gender, they were excluded from the analysis.<sup>6</sup> The data also included some 20 Jewish offenders (1.3%). While they were included in the analysis, their number was too small to assess the effect of ethnicity and as such ethnicity was

<sup>3</sup> Other offenses that were not included in these categories were excluded from analysis since they appeared in the data too infrequently.

<sup>4</sup> Data on organizational affiliation is derived from intelligence gathering, which includes interviews with the detainees, as well as secret intelligence developed primarily by the ISA.

<sup>5</sup> The IPS data also has access to personal details of prisoners as held by the Ministry of the Interior, through whom all marriage registrations are processed according to each citizen's and resident's national identification number. As demonstrated by the small number of unknown cases, the data is considered to be highly reliable.

<sup>6</sup> In contrast to the male prisoners, females were mostly not affiliated to any organization (only 6 were affiliated: 3 to Fatah, 2 to Hamas and 1 to a secular faction). Additionally, only 6 were married. Moreover, their mean age was 24.9 (8.4 SD), which also differed significantly from the males. The average sentence length for females was relatively longer than males (mean length: 210 weeks, SD: 257.3). Importantly, 21 of the 28 female prisoners were still serving their sentence at the end of the observation period. Accordingly, only two were incarcerated more than once during the studied period: one with a criminal charge and the other with a second security incarceration.

**Table 1** Descriptive statistics for first-timer and repetitive security prisoners

Parameter	Mean	SD	Median	Min	Max
First-timers (N = 1517)					
Age at release	21.92	7.48	19.5	14.51	65.12
Weeks incarcerated	95.58	209.32	32.00	0	1595
Group affiliated	66%				
<i>Marital status</i>					
Married	12.3%				
Single	84.1%				
Divorced/widowed	0.3%				
Unknown	3.3%				
Repeating offenders (N = 439)					
Age at release	22.60	5.96	21.11	14.51	57.88
Weeks incarcerated	40.50	59.03	32.00	0	529
Group affiliated	73%				
<i>Marital status</i>					
Married	13.5%				
Single	84.3%				
Divorced/widowed	0.6%				
Unknown	1.6%				

not included as a parameter in the final models. The final sample therefore included 1557 unique offenders and 2310 incarcerations.

The majority of the prisoners were single males and although ages ranged from adolescence to mid-adulthood, most prisoners were young adults. The majority of the offenders were affiliated with either the Hamas or Fatah organizations. Generally, the descriptive characteristics of the first-timers and repeating security offenders were comparable. While repeat offenders were on average older than first-timers, such a difference is to be expected since repeat offenders are represented in the data on multiple instances over a longer period of time. Although the length of incarceration for first-timers is longer on average, this reflects a larger number of exceptionally long incarcerations rather than a general shift in the data, as reflected by the median incarceration lengths which are identical for both groups (see Table 1).

Most of the security offenders were incarcerated for a national security offence (53%). Public disorder offences were the second most common offence, followed by violent offences, property offences, and “other” offences. For incarcerations labeled as being related to “criminal” offences rather than security-related, public disorder offences were the most common, with a number similar to that of the security incarcerations. The next most common offences were national security violations, violent offences, property offences, and other offences (See Table 2). As noted above, the incarcerations for security offences sometimes included more than one offence type, while incarcerations for criminal offences were mostly limited to a single crime type. There were an average of 1.34 offences per incarceration for the security related incarcerations compared to 1.02 for the criminal incarcerations.

**Table 2** Distribution of types of crime for security and criminal incarceration

Type of crime	Security convictions (%)	Criminal convictions (%)
National security	53	19
Public disorder	44	45
Murder/manslaughter	9	4
General violence	13	14
Property	14	20
Other	1	4

Percentages exceeded 100% on account of the fact that some incarcerations were the result of multiple charges spanning more than one violation category

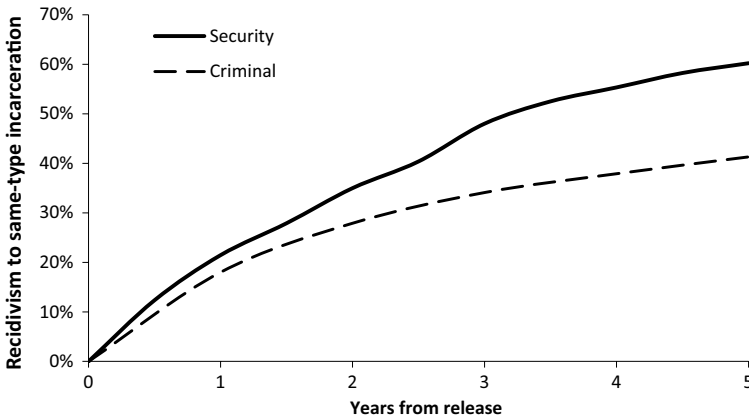
## Analysis

Many prisoners have only one incarceration in the study period, while others have several. Thus, when a single case is represented by several observations in the data pertaining to different incarcerations, the same invariant risk factors will be ‘re-counted’. Failing to account for this issue may lead to significant bias in the statistical model. Although mixed effects models are designed to account for the issue of repeating measures properly, in our data many prisoners were one-timers, who only had one incarceration during the study period. Since these individuals present only one measure, it would not be possible to assess within-subject variability from between-subject variability and hence traditional mixed effects models would be inappropriate.

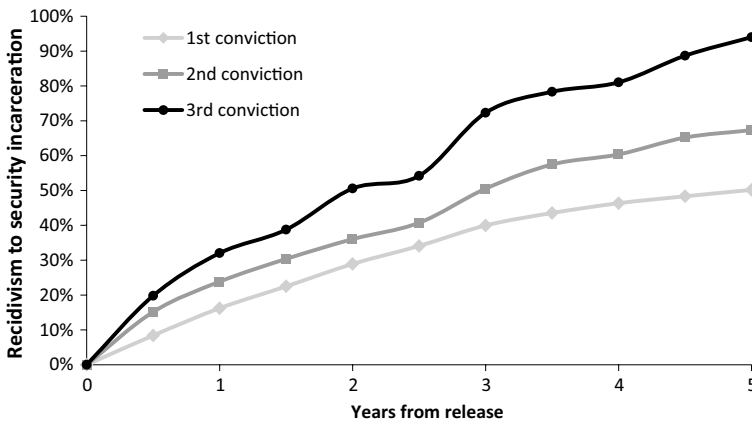
In order to address this issue of partially-repeating measures, we conducted two separate analyses. First, we tested the effects of the various risk factors for first-timers: prisoners who did not have a prior security incarceration during or before the study period, including both one-timers and eventual recidivists (those who were later incarcerated as security prisoners). A proportional hazards regression model was used, with return to security incarceration as the dependent variable (whether the individual was re-incarcerated during the study period). Such a model is useful for analysing the effect on the rate of an event (in this case, re-incarceration) over a variable observation period (Cox 1972; Singer and Willett 2003). A similar approach has been taken in examining recidivism among former guerrilla and paramilitary combatants (Kaplan and Nussio 2018). Prior incarcerations were excluded from the analysis as these are given to be null for the first-timers cohort that this analysis focused on. Age at first incarceration was also excluded from this analysis due to its inter-correlation with age upon release and sentence length for the first-timers which were examined.

In the second analysis we used a proportional hazards regression model, including only offenders that registered more than one incarceration during the study period. Mixed effects model was introduced to account for the fact that since individuals in the data analysed were repeating offenders, each was measured in this analysis more than once. The combined number of prior criminal and security incarcerations and age at first incarceration were also added to the model. The first incarceration was excluded to disentangle the dependency with the first analysis.<sup>7</sup>

<sup>7</sup> 20 individuals were excluded because they had very high numbers of criminal or security incarcerations relative to other prisoners (a minimum of 7 and 4 prior criminal and security incarcerations, respectively).



**Fig. 1** Recidivism to same-type incarceration of security offenders from Jerusalem and recidivism for ordinary criminal prisoners in Israel. (Recidivism of criminal offenders is based on Walk and Berman 2015)



**Fig. 2** The rate of security prisoners re-incarceration for new security offenses by number of prior incarcerations

## Results

In plotting the overall recidivism rates we find that the five-year rate is 21.45%, 35%, 48%, 55.3%, and 60.2%. In contrast, the recidivism rates for ordinary crime in Israel are 18%, 27.9%, 34.1%, 37.9%, and 41.3% (Walk and Berman 2015) (see Fig. 1).

For each additional prior security offence incarceration, the five-year recidivism rates increase significantly, to 50%, 67% and 94%. These increases over the baseline recidivism rate are significantly larger than the patterns observed with respect to ordinary criminal recidivism in Israel. Here, for each additional prior incarceration, the recidivism rate increases to 23.4%, 38.8% and 48.9%, respectively (Walk and Berman 2015).

**Table 3** Proportional hazards regression of recidivism of first-time offenders

	Log(PH)	PH	SE	Z	<i>p</i>	Sig
Age upon release	−0.050	0.95	0.016	−3.17	0.0015	***
Sentence length (weeks)	−0.014	0.97	0.019	−7.40	0.0001	***
Terrorist affiliation	1.43	4.19	0.137	10.44	0.0001	***
Marital status <sup>a</sup>						
Divorced/widower	−13.69	0.00	1065	−0.01	0.989	
Married	4.81	1.62	0.192	2.51	0.012	*
Type of violation						
Public disorder	−0.218	0.804	0.122	−1.78	0.075	
Violence	0.106	1.038	0.198	0.535	0.593	
Against person	0.004	1.04	0.158	0.237	0.812	
Property	−0.019	0.981	0.138	−0.139	0.889	
National security	−0.341	0.711	0.132	−2.578	0.010	**

*N* = 1517

\*\*\* < .0001, \*\* < .01, \* < .05

<sup>a</sup>Reference category for marital status: singles

### Risk Factors of Security Recidivism

First-timers, or offenders that were only incarcerated once for security offenses, represented the majority of cases in the data (61.1%). Proportional hazards regression was used to assess how the different risk factors affected the odds of a released first-time security prisoner to be a recidivist for another terrorism-related offense (see Table 3). The likelihood of security recidivism decreases as age upon release from incarceration increases (PH = 0.95,  $p = 0.0015$ ). Similarly, longer sentence length decreased the likelihood of security offending by similar odds (PH = .97,  $p < 0.0001$ ). Terrorist group affiliation had a large and significant effect in increasing the likelihood of security recidivism. That is, for offenders who had known affiliations with one of the primary terrorist groups (Fatah and Hamas), there is a 319% increase in the likelihood to be a recidivist compared to unaffiliated offenders (PH = 4.19,  $p < 0.0001$ ). A smaller but still significant positive effect was also found for marital status, with being married increasing the likelihood of security recidivism (PH = 1.62,  $p = 0.012$ ).

When disaggregating criminal history by offence type, none of the ordinary criminal offences had a significant effect on predicting recidivism. Only prior incarceration for national security offenses offences was found to have a significant effect on reducing the likelihood of recidivism (PH = 0.71), reflecting the large number of first-time offenders in the analysis. Public disorder offences followed a similar trend. While the effect direction indicates that public disorder offences may reduce the likelihood of recidivism to security offences, the estimate marginally non-significance (PH = 0.80,  $p = 0.075$ ).

In the second analysis, which examined the effects of the risk factors for recidivist offenders only, results generally followed a similar pattern to that of the first analysis (Table 4). Longer sentence length contributed significantly to reducing recidivism (PH = 0.93,  $p < 0.001$ ). While age at time of release maintained the same effect direction, the estimate fell marginally below the level of significance (PH = 0.93,  $p = 0.065$ ). Age at the time of first incarceration, which was not examined in the first analysis, was found to have no significant effect on predicting recidivism ( $p = 0.84$ ).

**Table 4** Mixed effects survival analysis for repeat offenders

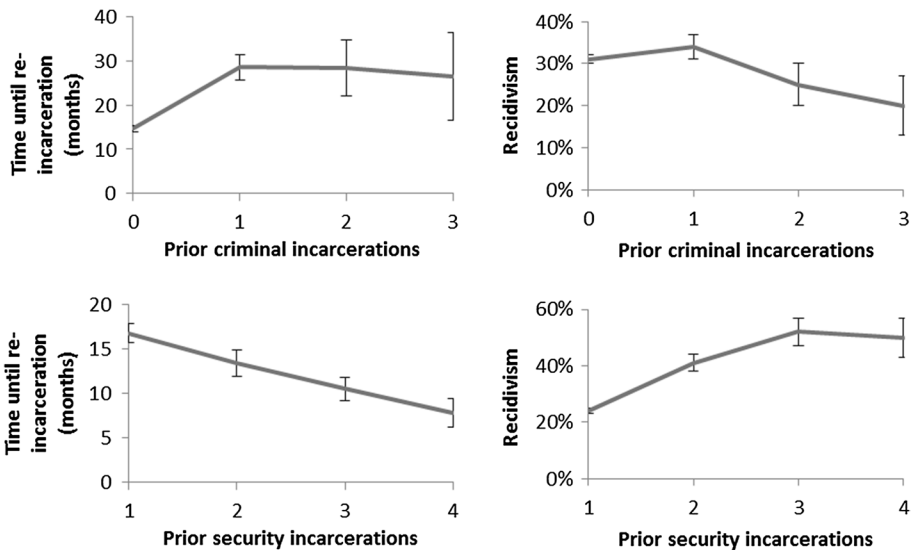
	Log(PH)	PH	SE	z	p	Sig
# of security incarcerations	0.22	1.24	0.06	3.35	0.001	***
# of criminal incarcerations	-0.027	0.76	0.12	-2.32	0.020	*
Age upon release	-0.07	0.93	0.04	-1.84	0.065	.
Sentence length (weeks)	-0.03	0.97	0.00	-7.60	0.000	***
Age at first incarceration	0.01	1.01	0.05	0.20	0.840	
Terrorist affiliation	1.34	3.82	0.22	6.22	0.000	***
Marital status <sup>a</sup>						
Divorced/widower <sup>b</sup>	-19.31	0.00	20,311.13	0.00	1.000	
Married	0.43	1.53	0.36	1.18	0.240	
Type of violation						
Public disorder	-0.01	0.99	0.16	-0.08	0.940	
Violence	-0.04	0.96	0.33	-0.13	0.900	
Against person	0.08	1.08	0.21	0.38	0.700	
Property	-0.02	0.98	0.20	-0.08	0.940	
National security	-0.38	0.68	0.18	-2.14	0.032	*

N=439 prisoners and 741 incarcerations

\*\*\*< .0001, \*\*< .01, \*< .05

<sup>a</sup>Reference category for marital status: singles

<sup>b</sup>Only 14 widowers in the data, none re-incarcerated



**Fig. 3** Recidivism (right panels) and time until re-incarceration (left panels) by the number of prior criminal incarcerations (upper panels) and security incarcerations (lower panels)

Similar to the first analysis, terrorist group affiliation significantly increased the risk of security recidivism. That is, being a known affiliate of one of the primary terrorist organization (Fatah and Hamas) carried an increased hazard of 282% for recidivism compared to

non-affiliated offenders ( $PH = 3.82, p < 0.001$ ). However, unlike the first analysis, the effect for marital status on recidivism was non-significant. Among individual violation types, only national security offenses had a significant effect, correlating with a reduction in the risk of recidivism ( $PH = .68, p = 0.032$ ).

In analysing the impact of incarceration histories on the risk of recidivism in repeat offenders, the combined number of prior security incarcerations significantly increased the likelihood of recidivism ( $PH = 1.24, p < 0.002$ ). Conversely, the combined number of prior criminal incarcerations had an opposing effect, significantly reducing the risk of recidivism to terrorism offending ( $PH = 0.76, p < 0.05$ ). As can be seen in the panels in Fig. 3 below, a monotonous effect was identified for the number of prior security incarcerations and the time until recidivism: A greater number of prior incarcerations increases both the risk of recidivism and a shorter time until the next incarceration. Conversely, security recidivism is characterized by a downward trend when there is a greater number of prior criminal related incarcerations, although this does not seem to correlate with the time until next incarceration.

## Discussion

In recent years there have been great advances in the empirical study of terrorism, many of which can be attributed to criminology's adoption of terrorism as a topic of research. The literature has benefited greatly from the application of criminology's established theoretical and methodological frameworks and approaches (LaFree and Dugan 2015; LaFree and Freilich 2016; Freilich and LaFree 2017). While the criminological literature has touched on several aspects of terrorism related phenomena, research on terrorist recidivism has mostly been limited. This can primarily be attributed to difficulties in collecting appropriate data, low base rates, and short observation periods. Our analysis on terrorists' recidivism in Israel has helped to overcome some of these limitations. The current study aimed to expand the current knowledge on terrorist recidivism by analyzing a sample of prisoners who were incarcerated in Israel for involvement in terrorism, and by assessing the applicability of commonly explored risk factors derived from the literature on criminal recidivism. We sought to explore the relationship between criminal and terrorist involvement by analyzing how prior involvement in different types of offending activities affects the risk of terrorist recidivism. While the involvement of terrorists in ordinary crime has widely been described in the background profiles of terrorists, the effects of criminal incarceration on involvement and desistance from terrorist activity had not been previously tested.

Examining the effect of previous security and criminal incarcerations separately showed that prior incarcerations for terrorism offending does increase the risk of future incarcerations for terrorism offending. In this regard, our findings suggest an important overlap with the evidence pertaining to recidivism for other serious crimes. However, our analysis also found that criminal history was negatively correlated with the risk of security recidivism. This may provide evidence to support the hypothesis that by committing criminal offenses, terrorists can fulfill criminogenic needs that are linked to both criminal and terrorist offending (Lloyd and Kleint 2017; Horgan 2003; Clarke and Newman 2006; Rekawek et al. 2017; Gallagher 2016). As such, observed desistance from terrorism may be the result of a re-direction or displacement of terroristic behavioral tendencies (Horgan 2009).

However, this may not be the case for all offenders, since not all of those who recidivate have histories for ordinary crime and not all of those who desist do either. Ideologically

motivated terrorists do not necessarily have criminogenic needs that can be fulfilled by other types of offending (Horgan 2005; Altier et al. 2014). It may be the case that recidivism to other offences such as violence, or ‘disturbing the peace’ may still be expressions of their radical ideology in sub-terroristic offending. Indeed, Walk and Berman (2015) found that 13.6% of terrorism offenders were re-incarcerated for unspecified violence and a further 8.3% for public order offences. Moreover, one cannot discount the possibility that post-release surveillance increases the likelihood of offenders being caught for ordinary crimes. Security services may be inclined to arrest and seek re-incarceration for criminal offences if they do not have sufficient evidence to proceed with terrorism related charges. Overall, in Walk and Berman’s (2015) study, among released terrorism offenders 25.9% were re-incarcerated for ordinary criminal offences in the 5-year follow up period, compared with 7.9% for further terrorism related charges.

While offence type is known to have a moderating effect for other recidivism related risk factors, our analysis found no consistent effect on recidivism (Tables 3 and 4). The lack of impact of age at first incarceration on security recidivism is consistent with findings on other rare offence types. While age at first incarceration is known to be a risk factor for both general and violent offending, for rarer types of offences it may have no effect (Soothill et al. 2002). Conversely, age upon release was found to have a protective effect against recidivism, although the estimate fell slightly below the level of statistical significance in the second analysis. Studies from criminology have found that generally speaking, the risk of recidivism drops significantly as offenders age. For the most part, scholars suggest that a combination of biological, psychological, neurological, and social factors stand behind the age-crime curve (Ulmer and Steffensmeier 2014). In this regard, it is important to consider that Klausen et al. (2016) found that while terrorists are somewhat older than ordinary criminals, their numbers also begin to decline from 25 onwards. As such, one possibility is that terrorists may age out of terrorism similar to how criminals age out of crime (Altier et al. 2012, 2014).

The findings regarding length of incarceration, which was found to have a significant inhibitory effect on security recidivism, were consistent between both analyses. While the literature is quite mixed on the deterring effects of sentence length, longer sentence lengths are correlated with older ages at the time of release. As described in the literature, age is also correlated with marital status. However, in our analysis marital status demonstrated an effect in the opposite direction than that of criminal recidivism, increasing the likelihood of being a recidivist. But with the estimate in the second falling below the level of statistical significance, while being married increased the likelihood of being a recidivist compared to a one-time offender, it did not increase recidivism itself.

This finding may be consistent with age-graded social control theories that suggest that the likelihood of re-offending decreases with age due to different life events as well as the acquiring of additional bonds and responsibilities (e.g. family, career, education, health) that tend to develop with age. Studies usually consider marriage to be a protective factor, or a life event that can act as a turning point that increases informal social control (Ulmer and Steffensmeier 2014). However, prior studies of Palestinian terrorists have found that married individuals were more likely to be offenders (Berrebi 2007). It has previously been noted that early marriages may take time to develop into the kind of relationship that provides a protective function, and hence, “the timing and quality of marriage matters” in determining whether marriage will have a protective effect or not (Laub and Sampson 2001:20). With regards to terrorism, spouses may be supportive or even encouraging of the given behaviour, in which case they may act as a risk factor rather than a protective factor (Altier et al. Forthcoming). In fact, surveys show that in some cases, Palestinian women are



just as supportive of terrorism as men, if not more so (Haddad 2004; Piazza 2019). In many conflicts it has been noted that the supportive role of women is a key aspect of enabling fathers and sons to carry out attacks (Cunningham 2003).

Another possible and related explanation to the findings regarding marital status may be related to incentivisation. As noted above, there is some evidence to suggest that some terrorists may be attracted to participation for economic reasons. Indeed, there is evidence that financial incentives have helped to induce individuals to join groups such as the Abu-Sayyaf Group (Loesch 2017), Boko Haram (Ewi and Salifu 2017) and ISIS (Horgan et al. 2017). In the Palestinian context, terrorists and their families receive a monthly stipend from the PA that may be larger than terrorists' earning potential and Jerusalem residents receive even more than residents of the West Bank (Feith and Gerber 2017; Jarallah 2008). As such, having a family to support may increase the attractiveness of financial incentives. This is one element that is unique to the Israeli context and is not generalizable to other contexts. In both analyses, we found that compared to those offenders listed as being "unaffiliated", offenders with a known affiliation to one of the primary terrorist organization had a higher risk of recidivism to security offences. Monahan (2012) previously identified group affiliation as one of four primary factors that may predict terrorism re-offending. Group affiliations tend to correlate with greater motivations and ideological commitment, with ideology being another one of the primary factors that predict re-offending. Group affiliations and ideological persuasion have also been found to predict recidivism of guerrilla fighters (Kaplan and Nussio 2018). While ideology is apparently one of the key factors that may distinguish terrorists from ordinary criminal offenders, group affiliations are also known to predict recidivism for ordinary criminals. Prior research has indicated that terrorist group members share much in common with gang members and that knowledge regarding the latter may be applied to the former (Decker and Pyrooz 2011, 2015; Valasik and Phillips 2017). Offenders affiliated with gangs and other criminal organizations are more likely to be recidivists, in part due to their criminal commitments and loyalty to the organization and its objectives (McShane et al. 2003; Olson et al. 2004; Huebner et al. 2007). Moreover, incarcerations provide affiliates opportunities to spend more time with each other, further increasing bonds and commitment to the ideology within the group and among its members (Boduszek et al. 2015).

As Ganor and Falk (2013) previously explained, Palestinian terrorism offenders, when released, return to a highly radicalized environment. A number of surveys have found that compared to other Muslim countries, support for terrorism among Palestinians is quite high (e.g. Horowitz 2009). Jerusalem is considered to be a flashpoint and there is significant support for radical violence and terrorism among its residents.<sup>8</sup> Supportive environments and radical milieus such as these may not only encourage offending and thereby recidivism but may also attract extra attention by law enforcement (Malthaner and Waldmann 2014; Clubb and Tapley 2018). While other studies have also found that organizational affiliation is a strong predictor of terrorism recidivism (Altier et al. Forthcoming), little comparison can be made with other democratic countries with regards to the scope, reach, and influence of organizations such as Fatah and Hamas in Jerusalem.

Beyond the fact that there are a number of unique characteristics to the Israeli case itself, and Jerusalem in particular, there are of course a number of limitations to this study, primarily in terms of what the data includes and doesn't include. Firstly, we acknowledge that

<sup>8</sup> As per multiple surveys carried out by the Jerusalem Media and Communication Centre (JMCC). See <http://www.jmcc.org/index.aspx>.

incarceration is a limited measure of recidivism. Certainly there are some arrests that do not lead to eventual convictions. However, the Israeli Prison Service holds those accused terrorism offenders awaiting trial as well and hence incarceration records in Israel may reflect, to some degree, re-arrest as well. The average length of incarceration, including the minimum sentence as shown in Table 1, reflects the existence of such individuals in the data set. While in some cases incarceration is a rather conservative measure of recidivism, with regards to terrorism, intelligence services play close attention to released inmates and re-offending to terrorism is likely to lead to their capture and re-incarceration.

Additionally, the data used for this study was limited in terms of the number of different risk factors which could be tested. While marital status was included, we were unable to test the effects of when marriage took place, or other family status related variables such as having children. Other factors that have been identified as potentially important to terrorist recidivism such as social achievements (e.g. education and employment), radical attitudes (ideological commitment), psychological assessments, and associations with other terrorists were not included in the data. These factors represent the types of dynamic risk factors that are considered to be crucial in the development and design of more evidence-based interventions and de-radicalization programs.

Nevertheless, some of the findings of this study do have important implications for risk assessment more generally. Our findings demonstrate that overall, recidivism rates among security prisoners from Jerusalem are higher than the criminal recidivism rates in Israel. The identified recidivism rate is significantly higher than what has been found for other countries, such as Saudi Arabia, and is also considerably higher than the 30% recidivism rate of former Guantanamo inmates. As discussed above, many of these studies have analyzed the outcomes of specific rehabilitation or monitoring programs (“treated terrorists”) and may therefore not include terrorists who did not participate in these programs. However, in the Israeli prison system, there are no de-radicalization programs or programs that seek to promote desistance from terrorism. There is also the possibility that the identified recidivism rate is related to the specific context of Jerusalem offenders. Offenders from Jerusalem, as compared to those from the West Bank, have freedom of movement and access in all of Israel proper. As such, they may have both more opportunities for offending, as well as greater opportunities for being apprehended. While it is important to consider these limitations and be cautious in making sweeping generalizations, the current study contributes to the growing literature of applying criminological theories and methods to the study of terrorism.

## Conclusions

The results of this study suggest that in certain contexts, and when taking all offenders into consideration over a longer observation period, recidivism rates for terrorist recidivism can match and potentially even exceed those for ordinary criminal offending. This descriptive finding has important policy implications. Government policies regarding terrorist offenders need to consider carefully the high likelihood of recidivism to terrorism. While terrorist offenders are often seen as distinct from ordinary criminals in terms of the need for rehabilitative programs, these findings suggest that such programs may be particularly important. Of course, the nature of programs will have to be altered to respond to the particular context and situations of these terrorist offenders.

Importantly, our study suggests that while the context and causes of terrorism may differ in significant ways for terrorism offenders, many of the risk factors are similar. We found that sentence length, age, and prior terrorist criminal records, show similar impacts to prior studies of criminal recidivism. Nonetheless, there are important differences. Prior criminal record inhibits future terrorist offending in this sample, and being married increases the risk of first time offending. In this context crime appears to be a possible gateway to terrorism, but it may also represent a gateway out of terrorism by providing an outlet to divert criminal tendencies and needs. The impact of marital status is likely due to financial incentives that are provided by the Palestinian Authority to offenders imprisoned for terrorist crimes. This suggests the importance of the particular social and political context of terrorism in understanding recidivism.

Whilst our analysis provides important insights into factors associated with recidivism to terrorism offending, we emphasize that this study was based on a sample of exclusively male offenders and the findings may not be generalizable to females. Future studies should seek to incorporate female offenders in the analysis where their numbers permit for comparisons to be made based on gender. Future analysis should also seek to include a broader range of offenders from different sectors. For example, a Pan-European analysis may be able to make such comparisons. Additionally, comparing offenders from different countries, and analyzing differences between lone-wolves, group-based offenders, and organizationally involved offenders would help to better understand the role of different risk factors for different offenders. Where possible, future research should seek to incorporate such comparative analysis in order to identify possible sources of heterogeneity, enable greater generalizations to be drawn, and help to inform the development of more evidence-based interventions and de-radicalization and desistance efforts.

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