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Understanding violent extremism: Socio-demographic, criminal and psychopathological background characteristics of detainees residing in Dutch terrorism wings

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Abstract

In the past decades, Europe has been shocked repeatedly by terrorist crimes. This has led to an influx of suspects and convicts of terrorism in the prison system. The aim of this study is to provide insight into socio-demographic, psychopathological and criminal background characteristics of convicted violent extremists. Retrospective analyses were conducted on primary source data from 82 convicts in Dutch prison terrorism wings. Results showed that violent extremists are a heterogeneous group regarding socio-demographic characteristics. About 60% of the population

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had previously been convicted of ordinary crimes and a third suffered from a mental disorder. To gain more insight into violent extremists, additional research is needed into motivational and other risk factors. The latter is a necessary step to improve the identification, risk assessment, and effective treatment of violent extremists.

Keywords
Criminal antecedents, psychopathology, socio-demographic characteristics, terrorism wings, violent extremism

Introduction

Extremism is defined as the ideological motives of a person or group to seriously violate the law to carry out activities that undermine the democratic constitutional state (Nationaal Coördinator Terrorismebestrijding en Veiligheid (NCTV), 2020). There are various definitions of terrorism (Doosje et al., 2016). In the current study, terrorism is defined as committing lethal violence based on ideological motives, or causing societal damage to property, with the aim of causing social undermining and destabilization, seriously encouraging the population of a country or influencing political decision-making (NCTV, 2020).

Extremist violence is a global problem, a crucial marker being the 9/11 attacks in 2001 in the United States in which nearly 2977 victims died and over 6291 were injured. Europe as well has a substantial history of terrorist attacks with examples as the 1988 Lockerbie bombing in which 270 people were killed, the 2004 train attacks by Islamic terrorists in Madrid with 191 fatalities and 2050 injured, and the six Islamic State attacks in Paris in November 2015 in which 138 people died including the 7 extremists. In addition, a substantial number of Europeans joined terrorist organization IS in the armed war in Syria and Iraq, whereby returnees of the war zone were considered suspected terrorists. With this, prison systems in Europe were confronted with a new influx of detainees who were suspected or convicted of terrorism.

The Netherlands has also been regularly confronted with terroristic attacks since the mid-twentieth century. Between 1950 and 2009, there were about 70 attacks that killed about 30 people. Examples include train and aircraft hijackings in the 1970s and an attack by the IRA in Roermond in 1990. Also, in 2004, filmmaker Theo van Gogh was brutally murdered after he released a critical documentary about Islam. The investigation of this crime led to the conviction of various members of a group of radical Muslim youth, the so-called Hofstad-group. In order to prevent suspects or convicts of terroristic activities from negatively affecting regular detainees, it was decided to place this group of detainees in specialized and secluded terrorism wings (Veldhuis, 2015).

To prevent terrorist attacks as much as possible, more understanding is needed about identification of potential extremists and prevention of violent (re)offending (Bakker, 2006; Borum, 2015; Duits et al., 2017). To address these needs, it is vital to gain more insight into socio-demographic, psychopathological, and criminal background characteristics of the current population of violent extremists (Bakker, 2006; Bazex et al., 2017; Schulten et al., 2019; Van Leyenhorst and Andreas, 2017). As a starting point for the current study, we briefly reflect below on what is known from previous research on violent extremists.

Socio-demography and criminal background of violent extremists

Studies investigating the socio-demographic characteristics of violent extremists showed that there is no typical profile of "the violent extremist" (e.g. Bakker, 2006; Horgan, 2014; Meleagrou-Hitchens et al., 2020; Sageman, 2004). Violent extremists vary in social, psychopathological, historical and cultural characteristics (Bakker, 2006; Corner et al., 2018; Corner and Gill, 2015; Gill and Corner, 2017; Monahan, 2012; Mondani et al., 2021; Pressman and Flockton, 2012; Weenink, 2015). Despite substantial differences between and within groups of violent extremists, there are also similarities in demographics, socio-economic status (SES), and criminal history. For example, the vast majority is male and on average younger than 30 years (Bakker, 2006; Sageman, 2004). In addition, there is an overrepresentation of first, second, and third generation migrants and most violent extremist came from lower or middle socio-economic classes (Bakker, 2006; De Poot et al., 2009). Little information was available on marital status, education, and employment (Bakker, 2006; De Poot et al., 2009). Regarding criminal background of 242 European terrorists, it was found that about a quarter of the group had criminal antecedents, such as illegal possession of firearms (Bakker, 2006).

Socio-demographic factors of violent extremists have also been studied in the Netherlands. Twenty-six clients of the Dutch Probation Service who were suspected of terrorism-related offenses related to Salafi-Jihadi terrorism in and around Syria were investigated (Van Leyenhorst and Andreas, 2017). The majority of these clients came from large families with an absent father, grew up in deprived neighborhoods in major cities in the Netherlands, were employed and followed some form of education. Their average age was 21 years (Van Leyenhorst and Andreas, 2017). The SES of these clients was diverse, which corresponds to other studies on similar populations (Bakker, 2006; Sageman, 2004). Unfortunately, this study was based on a small group of suspects during police investigation, which limits its generalizability. In another, larger Dutch study in which 279 police records of suspects of terrorism-related offenses were investigated, the sample mainly consisted of men with an average age of 30 years (Thijs et al., 2018). There was an overrepresentation of first- (41.2%) and second- (40.1%) generation migrants; 18.7% had a Dutch background and more than half (58.8%) were born in the Netherlands. About a third (31.5%) lived with their parents the year before the suspicion. These findings largely correspond with previous studies (Bakker, 2006; Sageman, 2004; Van Leyenhorst and Andreas, 2017). Furthermore, SES and level of education were relatively low in this group. Almost half of the individuals (44.0%) had a paid job prior to suspicion and a quarter received social benefits (24.0%), such as unemployment allowances. Almost two-thirds (62.4%) completed only primary school, 33.5% had completed secondary education, and merely four percent obtained a higher education diploma. Finally, it was concluded that 61.8% had been in contact with the police and had mainly been suspected of threatening others, crimes against the public order, assault, and shoplifting.

Recently, 319 police records of violent extremists who traveled from the Netherlands to Syria or Iraq were analyzed (Weenink, 2019). The mean age of this group was 24 years, 93.0% had a migration background, 85.0% were trying to rediscover and shape their religion (so-called "born-again" Muslims) and the remaining 15.0% were converts. The

majority had low levels of education (no basic qualification for the labor market), came from disrupted families (e.g. divorce parents), and 9% were homeless at some point in their life. About two-thirds (64.0%) had criminal antecedents of which 40.0% violent offenses. Only one person was involved in organized crime.

Considering the aforementioned studies, it can be concluded that the available research results on violent extremists is fragmented and partly inconsistent. However, there are some trends: violent extremists are relatively young (on average between 21 and 30 years old), often have a low SES, and several have previously been in contact with law enforcement.

Psychopathology and violent extremism

Mental disorders can severely limit the personal and social resources available to individuals, can negatively influence an individual's way of perceiving the world (Logan and Sellers, 2021) and can influence the likelihood to engage in goal-directed behavior and to act on intentions (Corner et al., 2016; Horgan, 2014). The extent to which mental health problems appear to play a role in violent extremist behavior depends on the individual case (Corner et al., 2016). Thus, in addition to the socio-demographic and criminal characteristics of violent extremists, it is important to look at the mental status of violent extremists (Borum, 2014; Corner et al., 2016; Horgan, 2014). Studies from the US and Europe showed inconsistencies regarding the prevalence rates of psychopathology in violent extremist populations (Gill and Corner, 2017), with percentages ranging from 8.4% to 81.3% (Alberda et al., 2018; Corner and Gill, 2015; De Roy van Zuidewijn and Bakker, 2016; Gill et al., 2014; LaFree et al., 2018). Some studies showed that schizophrenia and other psychotic disorders were most common in violent extremists (Bazex et al., 2017). Other studies showed that unspecified personality disorder and autism spectrum disorder (ASD) were more present in lone-actor terrorists compared to the general population (Corner et al., 2016). Studies on the association between personality disorders and violent extremism showed that there are no unique causal personality factors that causes violent extremism but that multiple individual and social factors influence each other (Corner et al., 2021). For example, a systematic review showed that clinical aspects of psychopathy play at most an indirect role in the radicalization process (Corner et al., 2021). Traits such as sensationalism, poor self-control, impulsiveness and a lack of empathy appear to be significantly associated with radicalization (Corner et al., 2021). Studies in the Dutch context showed that violent extremists often suffer from or are suspected of having (symptoms of) mental disorders, with prevalence rates ranging from 26.9% to 81.3% (Alberda et al., 2018; Van Leyenhorst and Andreas, 2017; Weenink, 2015, 2019). Furthermore, various disorders were identified, including attention deficit/hyperactivity disorder (ADHD), personality disorders, posttraumatic stress disorder (PTSD; Van Leyenhorst and Andreas, 2017), and psychotic disorders (Van Leyenhorst and Andreas, 2017). More than half of the violent extremists were found to suffer from comorbid disorders (Alberda et al., 2018). In most cases, there was a personality disorder as a secondary diagnosis, but substance abuse, depressive, psychotic and autistic disorders were also diagnosed.

Limitations of previous research in violent extremists

Despite important insights from previous research, there are shortcomings that limit our understanding of violent extremists. First, findings are often based on individual cases or small samples (Alberda et al., 2018; Schuurman, 2017; Van Leyenhorst and Andreas, 2017; Weggemans et al., 2014), and may therefore not generalize to larger populations. Second, some studies only investigated specific groups, such as people who (tried to) travel to Syria or Iraq to participate in a terrorist organization, but have not compared these with other subgroups of violent extremists (e.g. those who committed or planned a domestic attack; Weenink, 2015, 2019). Third, most studies focused only on socio-demographic characteristics of extremists (Bakker, 2006; De Graaf and Weggemans, 2015; Sageman, 2004), but have not extended their analysis to include mental health and offense-related characteristics. Fourth, data used in previous studies are often extracted from secondary source material such as newspapers or other open-source avenues (Gill and Corner, 2017; Logan and Sellers, 2021; Schuurman and Eijkman, 2013), and are thus limited in their description, level of detail, and validity. Fifth, most studies that investigated psychopathological characteristics of extremists relied on police records or peer reports to assess psychopathology but did not analyze official medical information (Bakker, 2006; De Roy van Zuidewijn and Bakker, 2016; Van Leyenhorst and Andreas, 2017; Weenink, 2015, 2019). Finally, several studies have (partially) included suspects of terrorism (e.g. Alberda et al., 2018; Thijs et al., 2018; Van Leyenhorst and Andreas, 2017), which could bias the results because some individuals may still be acquitted of terrorism charges.

The current picture of violent extremists is therefore incomplete, and more knowledge is needed. To address this limitation, in the present study primary source data (e.g. psychological and medical assessment, police information, and clinical observations) are used to provide an overview of socio-demographic, criminal and psychopathological characteristics of violent extremists residing in the terrorist wings of a highly secured penitentiary in the Netherlands. The central research question is: What are the socio-demographics, criminal and psychopathological characteristics of convicts residing in the terrorism wings of a Dutch prison? Sub-questions are: (a) To what extent do the variables gender, age, divorced parents, income, marital status, previous crime, previous crime against property, previous violent crime, previous stay in detention, previous contact with social services or psychopathology differ between recidivists compared to non-recidivists? (b) To what extent is psychopathology associated with recidivism, taking into account gender, age, divorced parents, income, marital status, previous crime, previous crime against property, previous violent crime, previous stay in detention and previous contact with social services.

Methods

Participants and procedure

In the Netherlands, two penal facilities provide specialized terrorism wings. In Rotterdam prison, there is one such wing (capacity of seven cells) and in Vught prison there are five

(total capacity of 41 cells). Selection of detainees for one of both penitentiaries depends on several factors: availability of empty cells, as a rotation option, and sometimes detainees in the same criminal case are not allowed to stay in the same prison because of possible influence of statements. Since 2016, the general policy is that all detainees are initially placed in the Vught terrorist wings and later possibly are transferred to Rotterdam. In general, the target group that stayed in the Rotterdam penitentiary is not different from that in Vught. Often, these were the same detainees who were rotated between both prisons and furthermore no selection was made on the basis of characteristics that were investigated in the current study. Because the Rotterdam data were less complete and accessible for the researchers, it was decided to include only the Vught population in the current study.

Between 2014 and 2020, 142 detainees stayed in the terrorism wings of the penitentiary in Vught. Of these 142 detainees, 82 (57.3%) had been convicted of terrorism and 60 detainees (42.7%) had not yet been convicted, acquitted, or their criminal case was closed due to lack of evidence. This retrospective study therefore only concerns the 82 detainees convicted of terrorism.

Because violent extremists are a threat to public safety, have a special status as detainees, and have major societal impact, characteristics of all detainees on the terrorist wings have been extensively documented as part of a standard procedure. Within the primary care process, this primary source information (including mental health and behavioral status, such as psychiatric and psychological assessment, intake and observational data from staff, file information) was used to identify intra- and interpersonal problems of the detainees and to determine which interventions could be employed to prevent intramural security risks and to reduce the risk of recidivism after release. Furthermore, additional the following secondary sources were available: police and criminal records, reports from probation service and information about and from relatives. The analyses of an expert in Arabic culture and extremists' Islamic ideologies were also included to provide more context with detainees' behavior.

Research ethics

As mentioned earlier, the current study is retrospective and the analyzed data were primarily collected for regular detention and care processes. No control group was available because the characteristics examined in the study sample were not documented for regular detainees residing in the PI Vught during the study period. The study was approved by the Ethics Review Board of Tilburg University. Because data were highly confidential, the general data protection and data management were checked by the data protection officer of Tilburg University. In the current study, no informed consent was used because it was not possible to trace all subjects (most of them had already been released). Furthermore, there was a high risk of selection bias because of the nature of the population and the study content. Based on the General Data Protection Regulation (GDPR) and the Dutch GDPR privacy legislation, the data can be used because the study serves a public interest. Article 14.5(b) is applicable since informing the data subjects (if logistically feasible) would complicate this research and appropriate measures are taken to protect the data subjects' rights. Given the sensitivity and relevance of research and

possible endangerment in case of notification to data subjects, the Ethics Review Board has decided that a public statement is not required nor desirable in this situation. Due to the sensitivity, the data is stored anonymously in the PI Vught for at least 10 years. Information about data selection and checks can be obtained from the first author.

Measurements

Socio-demographic information. Detainees' sex, age, country of origin, judicial title, indication for placement in a terrorist wing, and dates of arrival and outflow were retrieved from file information.

Socio-economic status. Number of siblings, marital status parents, marital status detainee, housing situation, education, and financial situation were retrieved from file information.

Criminal antecedents. The following data were obtained from the criminal records of the detainees: previous convictions of (violent) crime, previous detainment, and age at first (violent) crime.

Previous contacts with social services. These data were obtained mainly from the intake interviews conducted by staff of the terrorism wings. Moreover, available information from criminal records was used. As part of the regular care processes, information about detainees was retrieved from prior care providers, when available.

Psychopathological characteristics. All detainees residing in the terrorism wings were intensively observed by staff members and assessed to determine which interventions were needed to reduce their reoffending risk. They were evaluated by psychologists, medical doctors, nurses and, if applicable, a psychiatrist. Psychiatric diagnoses were determined using the Diagnostic and Statistical manual for Mental disorders, fifth edition (*DSM*-5; American Psychiatric Association (APA), 2013). Moreover, on a regular basis, monitoring and therapeutic sessions took place with a psychologist. Every two weeks, detainees were discussed in a team of professionals and decisions about diagnoses and interventions were made based on historic (e.g. youth care, previous forensic treatment) and clinical information.

Violent terroristic offense. A crime was labeled as a violent terroristic offense when the terroristic act resulted in serious injury or death of the victims. In contrast, a crime was classified as a non-violent terrorist offense when it did not result in serious injury or death, as is the case with propagating terrorist views or financing terrorist activities.

Reoffending. To assess whether detainees had reoffended after release from the terrorist wing, criminal records of former residents of the terrorist wings were investigated in December 2020. It should be noted that the first detainees resigned in January 2015 and had therefore been released for five years, while other detainees left prison for only a few weeks.

Statistical analyses

Descriptive statistics were computed for socio-demographic, psychopathological, and judicial characteristics of the population. In addition, chi-square tests have been performed to assess whether various variables (gender, age, divorced parents, income, marital status, previous crime, previous crime against property, previous violent crime, previous stay in detention, pervious contact with social services and psychopathology) differ between recidivists and non-recidivists. Previous research described a significant effect in the association between psychopathology and criminal behavior (e.g. Barrett et al., 2014; Guarnaccia et al., 2020). Therefore, the power (n = 82) with one-tailed testing is expected to be 0.77. Logistic regression analysis was used to test to what extent psychopathology is significantly associated with recidivism. All analyses were conducted in IBM SPSS, version 24.0.

Results

Sociodemographic characteristics

The study population consisted of 75 males (M age = 30.21, SD = 7.56, range = 19-50) and seven females (M age = 27.86, *SD* = 5.55, range = 20-34). The majority (n = 76; 92.7%) were convicted because they were related to jihadist groups and six detainees (7.3%) were related to right-wing extremist groups. Detainees in this study were convicted of various types of terrorist crimes (see Table 1 for an overview). Most detainees (92.7 %) were mainly convicted of one type of terrorist crime. Six detainees (7.3%) were convicted of two and three detainees were convicted of three different types of terrorist crimes. The mean length of stay on the terrorism wings was 545.35 days (SD = 743.88, range = 0-1615).

Detainees came from 15 different countries of origin, with the Netherlands (50.0%), Morocco (15.9%) and Iraq (7.3%) as most common. The largest groups after this were detainees born in Syria (6.1%), Libya (3.7%) and Israel (3.7%). The most prevailing birth countries of the parents of the detainees were Morocco (mother and father 37.8%), the Netherlands (mother and father 14.3%), and Turkey (mother and father 8.5%). More than half of our sample comprised first-generation (32.9%) or second-generation (31.7%) migrants.

The families of origin often had two to four children and in 32.9% of the cases the parents were divorced (see Table 2 for a complete overview of the SES information). More than half of the detainees were single (56.1%) and about a third (36.6%) were married. Of the detainees, 41.5% had one or more children. Prior to their arrest, the majority of detainees lived alone (36.6%), with their parents (26.8%), or with a partner (19.5%) and four of them (4.9%) were homeless.

Almost one fifth of the detainees (18.3%) completed primary school, 39.0% completed secondary school, 31.6% completed some form of higher education and 2.4% did not complete any form of education. Information about education was missing from seven detainees (8.5%). It should be noted that some detainees were still in school at the time of their arrest and therefore could not have completed secondary or tertiary education.

Table 1. Type of terrorist crime.

Type of terrorist crime	Frequency N	Percentage (%)
Joining a terrorist organization in Syria or Iraq (returnees)	18	22.0
Attempt to travel to Syria or Iraq	8	9.8
Recruitment	3	3.7
Preparation of terror attack	17	20.7
Terror attack	9	11.0
Arms trade or possession of weapon	4	4.9
Incitement or propaganda	6	7.3
Financing terrorist activities	4	4.9
Terrorism threat	3	3.7
Foreigners joining a terrorist organization in their home county	4	4.9
Others[a]	6	7.3

[a]Such as participating in a training camp or providing information and knowledge about terrorism.

In 71 cases (86.6%), information about employment status at the time of the offense was available. About a third (39.0%) received benefits and 37.8% had income from work. Finally, 9.8% received income from student stipends.

Criminal antecedents

Information about criminal antecedents was available for all detainees. Approximately 40% of them (40.2%) had no reported criminal history, whereas the others had at least one earlier conviction (59.8%). The criminal antecedents were categorized as property crimes (41.5%) and violent crimes (30.5%). In 18.3% of the cases there was serious violence (such as threat, rebellion against authority, moderate violence against persons or property) and possession of arms, combined property and violent crimes (2.4%), severe violence (e.g. resulting in serious bodily injury; 3.6%), and manslaughter (1.2%). As far as known, none of the detainees were previously involved in organized crime. The mean age of the subgroup with criminal antecedents at the time of their first conviction for any offense was 20.19 years (SD = 6.75; range = 12-40; based on 46 cases). For violent crimes this was 19.41 years (SD = 5.40; range = 12-40; based on 26 cases).

Previous contact with social services

Information on any previous contacts with social services was available for all detainees. Of those, thirty-three (28.0%) had a social service history and seven (8.5%) had a youth care history. Eighteen detainees (22.0%) previously received outpatient treatment. In four cases (4.9%), there had been a voluntary admission to a psychiatric clinic and in seven cases (8.5%) a mandatory. Two detainees (2.4%) previously lived in sheltered housing settings. Regarding forensic psychiatric care, two detainees (2.4%) received forensic psychiatric care in a high-security juvenile setting. During custody for their

Table 2. Socio-economic status.

Socioeconomic characteristics	Category	Frequency *N*	Percentage (%)
Siblings	None	1	1.2
	1 – 3	46	56.1
	4 or more	27	32.9
	Missing data	8	9.8
Marital status parents	Divorced	27	32.9
	Not divorced	49	59.8
	Missing data	6	7.3
Marital status detainee	No partner, not married	41	50.0
	Partner, not married	5	6.1
	Married	22	28.1
	Divorced, remarried	7	8.5
	Divorced, not remarried	5	6.1
	Missing data	1	1.2
Children	None	47	57.3
	1	19	23.2
	2 or more	15	18.2
	Missing data	1	1.2
Housing situation	Living independently	30	36.6
	Living with parents	22	26.8
	Living with partner	16	19.5
	Household with peers	1	1.2
	Institution or center for asylum seekers	4	4.9
	Homeless	4	4.9
	Missing data	5	6.1
Education	None	2	2.4
	Primary education	15	18.3
	Secondary education	33	40.2
	Secondary vocational education	16	19.5
	Higher professional education	7	8.5
	University	2	2.4
	Missing data	7	8.5
Financial situation	Benefits	32	39.0
	Income from work	31	37.8
	Student finance	8	9.8
	Illegal income	0	0.0
	Missing data	11	13.4

terrorist crime, 13 detainees (15.9%) were placed in a penitentiary psychiatric center. In general, detainees were referred to mental health care settings due to symptoms of PTSD (n=4), stress-related symptoms (n=4), and psychosis (n=3).

Psychopathology

About two-thirds (68.3%) had no *DSM*-5 diagnosis, while 26 detainees (31.7%) suffered from one or more psychiatric disorders, including personality disorders. In 3.7% of these cases a personality disorder was diagnosed in combination with another psychiatric disorder (see Table 3 for an overview).

Notably, 53.1% of the detainees who were convicted of a crime in the past had a *DSM*-5 diagnosis. In more detail, 38.2% of the detainees previously convicted of property crimes and 40.0% previously convicted of violent crimes were diagnosed with a mental disorder. Furthermore, 53.8% of the detainees who were diagnosed with a *DSM*-5 disorder had previously contact with social services. Two detainees were found guilty but were no longer prosecuted due to a severe psychiatric disorder.

Violent terroristic offense

Four detainees were categorized as convicted of committing terrorist acts resulting in serious injury or death (age range at the time of the index delict: 19-37 years). Two of them had a criminal record: both had previously committed a violent crime and one also a property crime. Two detainees had previous contacts with social services.

Reoffending

Of the 44 detainees released from the terrorism wings before December 2020, 10 reoffended. Eight of these reoffenders already had a criminal record before they were arrested for terrorism: five had previously been arrested for property crimes and five for violent crimes. Six of them were detained because of these earlier offenses. From the 10 reoffenders, six were re-arrested because of crimes against property, assault, or rebellion against authority (such as police officers). The other four were detained again after release from the terrorism wings on conviction of a terrorist crime, one of them for the third time. Three of them were arrested as a group on suspicion of preparing an attack in the Netherlands. The time between release from the terrorism wing and reoffending varied between 4.6 and 42.3 months. All four detainees were previously convicted of attempted travel to Syria or Iraq. One detainee was previously convicted of violent and property crime, one of violent crime only, and one of property crime only. One detainee had previously received forensic youth counseling, and two detainees had previously received treatment (outpatient and forced admission to a forensic hospital) under special conditions for their first conviction for terrorism. One detainee was diagnosed during detention with a mild intellectual disability, whereas two other detainees were diagnosed with a personality disorder. The fourth detainee did not suffer from psychopathology.

The logistic regression analysis showed no differences between recidivists and non-recidivists with regard to the independent contribution of gender, age, divorced parents, income, marital status, previous crime, previous crime against property, previous violent crime, previous stay in detention, previous contact with social services and psychopathology. Furthermore, the results did not show that psychopathology is significantly associated with recidivism, controlling for all other variables.

Table 3. *DSM*-5 diagnosis.

Mental disorder	Frequency in target group (*N*)	Prevalence in target group (%)	Prevalence in the reference population of the *DSM*-5 (%)	Prevalence in general Dutch population (%)[a]	Prevalence in lone-actor terrorists (%)[b]
Psychiatric disorder or intellectual disability[c]					
Autism	5	6.1	1.0	n/a[g]	3-4%
Unspecified schizophrenia spectrum or other psychotic disorder	5	6.1	Unclear	n/a[g]	Around 1%
Alcohol use disorder	2	2.4	8.6	0.7	n/a[g]
Schizophrenia	1	1.2	0.3-0.7	n/a[g]	8,5%
Cannabis use disorder	8	9.8	1.5	0.4	n/a[g]
Mild intellectual disability	7	8.5	1.0[d]	6.4[e]	n/a[g]
Bipolar 1 disorder	1	1.2	0.6	0.8	4%
Unspecified attention deficit or hyperactivity disorder	1	1.2	2.5	2.1	n/a[g]
Gambling disorder	1	1.2	0.2-0.3	n/a[g]	n/a[g]
Major Depressive disorder	1	1.2	7.0	6.1	Around 7%
Post-traumatic stress disorder	2	2.4	0.5-1.0	n/a[g]	Around 3%
Personality disorder[f]					
Around 6%					
Borderline personality disorder	3	3.7	1.6-5.9	n/a[g]	n/a[g]
Narcissistic personality disorder	3	3.7	0.0-6.2	n/a[g]	n/a[g]
Avoidant personality disorder	1	1.2	2.4	n/a[g]	n/a[g]
Paranoid personality disorder	1	1.2	2.3	n/a[g]	n/a[g]
Antisocial personality disorder	3	3.6	0.2-3.3	n/a[g]	n/a[g]

DSM: Diagnostic and Statistical manual for Mental disorders.
[a]Prevalence of NEMESIS-2-research (Trimbos-Instituut, 2010).
[b]Corner et al. (2016).
[c]In 11 cases, there was one psychiatric disorder or an intellectual disability diagnosed. In four cases there were two such diagnoses and in five cases there were three such diagnosis present. These cases are therefore scored on multiple disorders.
[d]Prevalence of Intellectual disability (there is no prevalence in the *DSM*-5 of mild intellectual disability);
[e]Woittiez et al. (2019).
[f]In two cases there are two personality disorders present. These cases are therefore scored on two personality disorders.
[g]Not applicable.

Discussion

The current study used primary source data (e.g. psychological assessment, police information, and clinical observations) to provide a detailed description of socio-demographic, criminal, and psychopathological characteristics of convicts of terroristic crimes residing in the terrorism wings of a highly secured penitentiary in the Netherlands.

With regard to socio-demographic characteristics, psychopathology and criminal antecedents of the studied population, we found that the group was diverse. Similar findings were reported in prior studies on terrorist populations (Bakker, 2006; De Poot et al., 2009; Sageman, 2004; Van Leyenhorst and Andreas, 2017; Weenink, 2015). In accordance with previous research (Bakker, 2006; De Poot et al., 2009), we found that the majority of the target group was male. The heterogeneity of the group was also evident in the widespread nationalities (in total 15), differences in level of education and variation in SES. Furthermore, similar to previous research (Bakker, 2006), a majority of the detainees had a criminal history, often including convictions for crimes against property and/or violent crimes.

In the current study, a third of the detainees were diagnosed with one or more psychiatric disorders including mild intellectual disability and personality disorders. This figure is in line with some previous findings (Corner and Gill, 2015; De Roy van Zuidewijn and Bakker, 2016; Gill et al., 2014) stating that the prevalence of psychopathology in violent extremists is similar to that in the general population. In line with previous studies (e.g. Alberda et al., 2018; Corner et al., 2016; Van Leyenhorst and Andreas, 2017), we found that the prevalence of schizophrenia and autism spectrum disorder (ASD) was higher compared to the general population. Individuals with ASD often have social and communication difficulties, sometimes in combination with a preference for (historical or ideological) details that can lead them to an online environment of an extremist movement (Al-Attar, 2020). In the present study, the prevalence of specifically cannabis use disorder was high (9.8%) compared to the general Dutch population (0.4%; Trimbos-Instituut, 2010). These figures are in line with previous studies among Dutch violent extremists showing that substance use is a (relatively) commonly diagnosed disorder (Alberda et al., 2018). The prevalence of mild intellectual disability was slightly higher (8.5%) than in the general Dutch population (6.4%; Woittiez et al., 2019) and group actor terrorists (less than 1%; Corner et al., 2016). A possible explanation for this is that the previous study only included group actor terrorists who appear to exhibit mental health disorders less often (Corner and Gill, 2015). Prevalence rates found in other studies of depression (around 7%; Alberda et al., 2018; Corner et al., 2016) and bipolar disorder (4%; Corner et al., 2016) are higher than in this study. Depression also appears to occur less frequently in this study (1.2%) than in the general Dutch population (6.1%). The prevalence of PTSD in our studied group (2.4%) is comparable to previous research (Corner et al., 2016; Van Leyenhorst and Andreas, 2017) and is slightly more common than in the general Dutch population (0.5-1.0%). The percentage of bipolar disorder is 1.2% which is in line with the general Dutch population (0.8%).

A striking result is that the prevalence rates of personality disorders in this study are consistent with those in the general population (APA, 2013), which is in contrast to previous studies which showed that personality disorders are relatively more common in

violent extremists compared to the general population (e.g. Alberda et al., 2018; Corner et al, 2016; Van Leyenhorst and Andreas, 2017). A possible explanation for these differences is that previous studies had access to different data (with different biases) or investigated personality traits (e.g. sensationalism, poor self-control) rather than disorders (Corner et al., 2021). Given the relatively large amount of data in this study (including primary source psychological and medical information) and the ability to closely observe detainees (since they stayed in detention), the chance of underreporting personality disorders seems limited, but cannot be completely excluded. In general, it can be stated that psychopathology varies across studies possibly explained by methodological differences, such as small samples (De Roy van Zuidewijn and Bakker, 2016) the operationalization of psychopathology and specific characteristics of the studied groups (Alberda et al., 2018; Van Leyenhorst and Andreas, 2017; Weenink, 2015, 2019).

Detainees who were convicted of a terrorist offense resulting in serious injury or death did not differ from those who committed less severe offenses in terms of background characteristics, psychopathology, or criminal antecedents. It should be noted that this concerns only four detainees and therefore no generalizable conclusions can be drawn.

Compared to the reoffending rates of the regular prison population (45.5% within two years after release; Dienst Justitiële Inrichtingen, 2019), the recidivism number of detainees who were discharged from a terrorism wing is relatively low (12.2% in total and 9.8% within two years). However, it is worrying that of this 12.2%, 4.9% has been arrested again on suspicion of terrorism. It should also be noted that a large part of the discharged detainees (n = 44) are not yet two years released from prison. Therefore, no firm conclusions can be drawn from these recidivism figures and subsequently a longer follow-up period is recommended in future research. Without prejudice to the aforementioned restriction, our study results correspond to earlier findings on reoffending rates in violent extremists (around 5% reoffending in violent extremisms; Bakker, 2006; Bergen et al., 2011; Van der Heide and Schuurman, 2018).

Limitations

The current research was a descriptive retrospective file study of detainees who resided in Dutch terrorism wings in the period from 2014 to 2020. Therefore, we can only make statements that reflect the current sample. Unfortunately, no control group was available because the characteristics that are examined in the study sample (excluded age, sex, and type of offense) were not documented for regular detainees residing in the PI Vught in the study period. Findings about specific populations (e.g. violent extremists that committed terrorist acts resulting in serious injury of death) cannot be generalized because most subgroups were too small. Another limitation is that there was little information available for a few detainees as they were only staying at the terrorist wing for a short period. This study focused on mental disorders and does not explore the possible underlying motivational mechanisms through which mental disorders might influence an individual' involvement in violent extremism. Furthermore, we cannot make conclusive statements about the recidivism figures (including terrorist reoffending). This because the first detainees resigned in January 2015 and had therefore been released for five

years, while other detainees left prison for only a few weeks. Finally, another limitation is the lack of power which made it impossible to make in-depth comparisons between subgroups (for example, detainees convicted of terrorism in the Netherlands versus participating in terrorism abroad).

Research implications

The current study shows that convicts of terrorism cannot be differentiated based on sociodemographic, judicial, and mental health variables. This makes it difficult to identify potential perpetrators of violent extremism based on general background information. However, this does not alter the fact that we are dealing with a group that probably differs from the general population when looking at specific characteristics such as ideology and motives (Pressman and Flockton, 2014). Therefore, more attention should be paid to factors previously identified in research as relevant to violent extremist behavior (Pressman and Flockton, 2014). For example, factors that are described in specific risk assessment instruments such as the Violent Extremist Risk Assessment-2 (Pressman, 2009; Pressman et al., 2016) should be included in follow-up research to obtain a more thorough picture of detainees residing in a terrorism wing. It is important to investigate how mental health problems coexist with other specific risk factors and which motives underlie the reinforcement of radicalization processes (Corner et al., 2016). These insights are needed to make interventions on violent extremists with mental disorders more effective (Logan and Sellers, 2021). Furthermore, knowledge on risk factors could help in defining risk profiles for different groups of detainees. In addition to this, using a longer follow-up period after release from terrorism wings would produce more reliable reoffending estimates. Finally, it would be informative to investigate the extent to which specific subgroups (e.g. right-wing terrorists and females) are characterized by different background and mental health characteristics, motives, and risk factors as compared to other detainees residing in the terrorism wings. For example, the Dutch intelligence and security service stated that the role of women in jihadist networks is rather important (Algemene Inlichtingen- en Veiligheidsdienst, 2017). It would therefore be insightful to conduct further research into these subgroups and any distinguishing features. Such insights could contribute to risk management of specific subgroups.

Conclusion

Violent extremists comprise a heterogeneous group in terms of sociodemographic characteristics and mental health. Yet, there are some trends: about 60% of the detainees have been convicted earlier and about a third had a mental disorder according to the *DSM*-5. Compared to both the *DSM*-5 reference population (APA, 2013), and the general Dutch population (Trimbos-Instituut, 2010; Woittiez et al., 2019), convicts of violent extremism do not differ for most of the psychiatric disorders studied, including personality disorders and mild intellectual disability. Exceptions are cannabis use disorder, autism and (unspecified) schizophrenia (spectrum or other psychotic disorder), which are more common in the study group. Additional research is needed into motivational and other risk factors to distinguish the target group more specifically. More in-depth knowledge

of how mental problems co-occur with other specific risk factors and how this co-occurrence influences the radicalization process is needed. This is necessary for purposes, such as case finding and setting up effective intervention strategies.

Data Availability Statement

Information about the data set, data selection and the data protection process and checks can be obtained from the first (and corresponding) author.

Data Deposition

There is no data deposition with regard to the present study because of its high confidentiality.

Declaration of Conflicting Interests

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