

# Psychiatric Assessment of Individuals Charged with Terrorism and Those at Risk of Engaging in Acts of Terrorism

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Terrorism is a multi-faceted phenomenon that entails a strategic and instrumental use of violence to achieve ideological or political goals. Despite decades of research in the field, empirical data to guide clinical practice is lacking, and controversies surround the role of psychiatrists in assessing terror subjects. Our paper provides an overview of the social, psychological, and political-cultural risk factors for radicalization to terrorism; the assumed link between mental illness and terrorism; the relevant legal issues; and the threat assessment and management tools. In the absence of evidence-based clinical guidelines, a thorough understanding of these issues helps inform psychiatric assessments of individuals charged with terrorism or those at risk of engaging in acts of terrorism.

**Key words:** *terrorism, risk assessment, mental disorder, radicalization, extremism, threat assessment*

Terrorism is a complex global phenomenon that is typically characterized by strategic and instrumental use of violence to achieve ideological or political goals (Ho et al., 2019; Scarcella et al., 2016). Terrorism is influenced by a complex interplay of individual, social, environmental, psychological, and geopolitical factors (Corner et al., 2018). Understanding the antecedents of terrorism may offer opportunities for early intervention and prevention (Smith, 2018).

Despite its increasing media attention and public interest, especially in identifying those most at risk of engaging in acts of terrorism, terrorism research is yet to identify a universally acceptable profile. This is not surprising given the heterogeneity of terrorist groups, the lack of a consistent definition for terrorism, and the state-centric nature of terrorism research (Ho et al., 2019).

The situation was previously compounded by an overreliance on theory and a relative lack of empirical and primary source data. Although the use of primary source data has grown considerably in the past decade or so, enduring issues relating to a relative lack of collaboration among researchers

and the increasing number of one-time contributors remain (Schuurman, 2018).

Nevertheless, research endeavours in the last two decades have yielded numerous studies, which, in the absence of clinical practice guidelines, may help inform the psychiatric assessment of terror subjects and those at risk of engaging in acts of terrorism. Indeed, Schuurman (2018) identified a growing body of evidence that has important implications for identifying early warning indicators, which can be used in risk assessment instruments.

Our paper gives an orienting overview of the key factors pertaining to psychiatric assessment of individuals charged with terrorism or those at risk of involvement in acts of terrorism. These include:

1. Risk factors for radicalization to terrorism,
2. The assumed link between mental disorders and terrorism,
3. Risk assessment tools for terrorism and radicalization,
4. Relevant legal issues, and
5. Psychiatric assessment of individuals at risk for or charged with terrorism.

**Table 1**  
General risk factors for radicalization to terrorism

Demographics	Socio-political	Psychosocial	Other
<ul style="list-style-type: none"> <li>• Male</li> <li>• Young age</li> <li>• Less education</li> <li>• Unemployment</li> <li>• Low socioeconomic status</li> <li>• Relationship difficulties</li> </ul>	<ul style="list-style-type: none"> <li>• Perceived injustice</li> <li>• Grievances</li> <li>• Sense of belonging</li> <li>• Need for identity</li> <li>• Acquaintance with radicalized individuals</li> <li>• Gang affiliation</li> <li>• Poverty</li> <li>• Oppression</li> <li>• Commitment to an extremist ideology</li> </ul>	<ul style="list-style-type: none"> <li>• Trauma</li> <li>• Adverse childhood experiences</li> <li>• Low self-esteem</li> <li>• Family dysfunction</li> <li>• Few social contacts</li> <li>• Mental health issues</li> <li>• Personality factors (e.g., sensation-seeking, impulsivity, poor self-control, low empathy)</li> </ul>	<ul style="list-style-type: none"> <li>• Failure to achieve aspirations</li> <li>• Criminal record</li> <li>• History of violence</li> </ul>

### Risk Factors for Radicalization to Terrorism

McGilloway and colleagues (2015) defined radicalization as “a process where a previously passive individual changes to become more revolutionary, militant or extremist, and has been closely tied with those involved in terrorism.” Radicalization to terrorism is a multi-step process where an individual is radicalized via gradual exposure and indoctrination to extremist ideologies and is conceptualized as a multi-faceted process rather than a single conscious decision (Horgan & Taylor, 2001). With reference to al-Qaida–influenced radicalization to terrorism, Sageman (2004) proposed four stages:

1. incidence of moral outrage,
2. a specific world perspective,
3. resonance with personal experiences, and
4. mobilization through social networks.

Several other models of radicalization have been proposed (see Christmann, 2012). To understand and assess risk factors for radicalization to terrorism, psychosocial, and geopolitical factors need to be considered (see Table 1). Borum (2004) explored the broad psychological literature on radicalization to terrorism and highlighted the role of perceived injustice, need for identity, sense of belonging, trauma, and adverse childhood experiences. Monahan (2012) identified the role of low self-esteem, poor social contacts, and the difficulty reconciling a Muslim identity with a liberal Western culture.

The psychosocial determinants of radicalization vary significantly by geography and culture. Campelo and colleagues (2018) identified family dysfunction, early abandonment, personal uncertainty, acquaintance with radicalized individuals, and

social changes as key risk factors among European youth. In contrast, others identified being well-integrated into society as the most consistent element of radicalization among Muslims in Western societies (McGilloway et al., 2015). In a review, Smith (2018) identified several other social risk factors among both group and lone actors in the American context. These included being unemployed, a sporadic work history, low socioeconomic status, failure to achieve aspirations, having difficulties in relationships, perceived abuse as an adult, and estrangement from one’s family. The review also contrasted several factors specific to lone actors, such as being male, living alone, and being socially isolated.

Geopolitical risk factors are wide ranging, including perceived injustice, gang affiliation, delinquency, criminal record (violent or non-violent), association with a person who has committed an act of terrorism (friend), affiliation with a terrorist group for a protracted period, and commitment to an extremist ideology (Smith, 2018). The roles of poverty, oppression, and frustration in justifying terrorism have also been highlighted in some reports (Dhumad et al., 2020). Given the middle-class origins of many people who have committed acts of terrorism, some argued that the perceived oppression is often moral or political rather than economic, and the poverty is often vicarious, whereby terrorism is justified by the person as being justice for the underprivileged members of the society (Sageman, 2008).

In their systematic review of the literature on risk factors for terrorism, Desmarais and colleagues (2017) identified an amalgamation of nine key socio-political risk factors, including age, socioeconomic status, prior arrest, education, employment, relationship status, perceived grievances,

geographical locale, and type of geographical area. However, the authors highlight that none of the identified variables were empirically supported risk factors due to numerous limitations of the primary studies. Other factors — such as media influence, country of birth, or the association with certain religious groups — merit further inquiry but are not established factors used in risk assessments reliably (Desmarais et al., 2017).

Research has focused on identifying risk factors for radicalization to terrorism that are specific to certain groups. For instance, the American National Institute of Justice 2018 report (Smith, 2018) identified several potential risk factors for lone-actor terrorism. These include the person having a criminal record, being involved with delinquent peers, having a friend who has committed an act of terrorism, having a commitment to an extremist ideology, unemployment, low socioeconomic status, low educational attainment, relationship difficulties, being abused as an adult, and being distant from one's family.

Other scholarly contributions focused identifying risk factors among radicalized Muslim people. On exploring the psychological processes of jihadi radicalization, Silke (2008) identified the roles of younger age, male sex, married, high education, middle-class background, strong Muslim identity, group loyalty, social marginalization, discrimination, exposure to catalyst events, perceived injustice, and other factors.

In their systematic review of the literature on pathways to radicalization among Muslim people in Western societies, McGilloway and colleagues (2015) highlighted the importance of identity, social drivers (e.g., deprivation, discrimination, lack of integration), individual factors (e.g., younger age, low socioeconomic status), low self-esteem, stressful life events, personal experiences (e.g., discrimination, racial abuse), negative media and government influences, grievances relating to foreign policy, more literal interpretations of the Qur'an, and ideologists among other factors. Despite identifying these factors, the authors noted that "the only one common characteristic determined that terrorists are generally well-integrated, 'normal' individuals" (McGilloway et al., 2015, p. 49).

Although several other studies reported on this finding of relative normality among perpetrators of jihadi terrorist attacks (e.g., Christmann, 2012), Horgan (2008) identified six key risk factors that may indicate involvement in terrorism and suicide bombing. These include emotional vulnerability from perceived cultural displacement; search for spiritual guidance; dissatisfaction with mainstream politics;

identification with the perceived suffering and victimization of Muslim people elsewhere; attaining status through membership of terrorist groups; and having close social ties with like minded people.

Ultimately, research into the risk factors for terrorism has several limitations. Most of the research in the field is driven by theory or secondary source data such as publicly available databases and profiles rather than primary empirical data, though with a few notable exceptions. Research has mainly focused on people who have committed acts of terrorism in the context of using a distorted Islamic ideology to justify the terrorism (or jihad) and the generalizability of the identified risk factors to other terrorist groups is yet to be determined (Monahan, 2012). Additionally, the risk factors for terrorism are non-specific and overlap significantly with those for general offending behaviour (Dhumad et al., 2020; Smith, 2018). This makes it difficult to outline the differential effects of these risk factors on behaviour and radicalization. It remains unclear to what degree these potential risk factors interact with each other or what combination indicates a higher risk for radicalization to terrorism (Smith, 2018). Most importantly, lack of longitudinal studies prevents drawing meaningful conclusions about a potential causal link between these factors and terrorism (Monahan, 2012).

### **Mental Disorder and Terrorism**

The prevalence rates of mental disorders vary considerably across studies, with estimates ranging from 6% to 41% among radicalized individuals to 3% to 49% among those who commit acts of terrorism (Trimbur et al., 2021). The prevalence of mental illness seems to be significantly higher among those who commit lone acts of terrorism than group acts, 31.9% and 3.4% respectively (Corner et al., 2016).

Individual disorders, such as autism spectrum disorder and psychotic disorders (schizophrenia and delusional disorder), have been found more prevalent among a specific subset of those who commit acts of terrorism than the general population (Corner et al., 2016).

In their systematic review of the literature on the link between mental health and radicalization, Misiak and colleagues (2019) reported that psychotic, mood or both disorders were more prevalent among lone actors. A more recent study suggests that people suffering from mood- or anxiety-related disorders are more inclined than others to have sympathy for violent protest and terrorism (Bhui et al., 2020). Other studies found no significant association between depressive symptoms and support

**Table 2**  
*Risk assessment tools for violent extremism*

Author (year)	Tools	Structure
Altemeyer & Hunsberger (2004)	Revised Religious Fundamentalism Scale	<ul style="list-style-type: none"> <li>• 12 item scale</li> <li>• Each item measured on a nine-point Likert-style scale</li> <li>• Measures religious fundamentalism in many faiths</li> </ul>
Cook (2014)	Multi-level Guidelines (MLG)	<ul style="list-style-type: none"> <li>• Uses structured professional judgment (SPJ) guidelines</li> <li>• Used for assessment of group-based violence (GBV) including terrorism</li> <li>• Has 20 risk factors across four domains:               <ul style="list-style-type: none"> <li>• Individual factors</li> <li>• Individual-group factors</li> <li>• Group factors</li> <li>• Group-societal factors</li> </ul> </li> </ul>
Esgalhado et al. (2018)	Radicalization Risk Assessment in Prisons (RRAP) Tools Set	<ul style="list-style-type: none"> <li>• Used to assess the risks, signals, and vulnerabilities for radicalization in prison</li> <li>• Comprises three risk assessment instruments:               <ul style="list-style-type: none"> <li>• Helicopter view</li> <li>• Frontline Behavioural Observation Guidelines (FBOG)</li> <li>• Individual Radicalisation Screening (IRS)</li> </ul> </li> <li>• Has one readiness assessment tool:               <ul style="list-style-type: none"> <li>• Critical Incidents Readiness Assessment (CIRA)</li> </ul> </li> </ul>
Karimi et al. (2021)	Assessment and Treatment of Radicalization Scale (ATRS)	<ul style="list-style-type: none"> <li>• Self-report measure of extremist religious beliefs</li> <li>• Has 33-items, 6 subscales, a total scale score, and a validity scale</li> <li>• Subscales:               <ul style="list-style-type: none"> <li>• Negative attitudes</li> <li>• Political views</li> <li>• Attitudes toward women</li> <li>• Western culture</li> <li>• Commitment to religion</li> <li>• Condoning fighting</li> </ul> </li> </ul>
Meloy (2018)	Terrorist Radicalization Assessment Protocol (TRAP-18)	<ul style="list-style-type: none"> <li>• Assists with risk driven case prioritization</li> <li>• Concerns prevention of terrorism</li> <li>• Has two sets of indicators, eight warning behaviours, and 10 distal characteristics</li> <li>• Creates a distinction between watching and warning</li> </ul>

*continued*

for political violence (e.g., Coid et al., 2016; Victoroff et al., 2010). Ultimately, the assumed link between mood disorders and proneness to radicalization to terrorism remains controversial. Indeed, Misiak and colleagues' (2019) review highlighted contradictory findings linking mood disorders to terrorism. Additionally, mood disorders have been reported to be overall less prevalent among those who commit acts of terrorism compared with the general population (Corner et al., 2016).

Despite attempts to understand the influence of personality on terrorism, no single personality trait nor personality disorder has been linked consistently

to radicalization to terrorism (Corner et al., 2021). The previously debated notion that people who commit acts of terrorism are psychopaths or sociopaths is not supported by empirical data (Monahan, 2012). There is some evidence that sensation-seeking, poor self-control, low empathy, and impulsivity are common among this population (Corner et al., 2021). Other reports identified the role of paranoid, antisocial, and sadomasochistic personality traits (Weatherston & Moran, 2003) and that of avoidant and dependent personality traits among suicide bombers (Merari et al., 2009). A more recent report (Soliman et al., 2016) highlighted the role of

Table 2 continued

Author (year)	Tools	Structure
Lloyd (2019)	Islamic Radicalization model 46 (IR-46)	<ul style="list-style-type: none"> <li>• SPJ tool</li> <li>• Used to identify signals of radicalization or extremism at an early stage</li> <li>• Designed to identify individuals at risk of engaging in Islamic terrorism</li> <li>• Informed by literature on terrorism and case studies</li> <li>• Has four phases containing indicators related to ideology and the social context of an individual</li> </ul>
National Offender Management Service (2011)	Extremist Risk Guidelines (ERG22+)	<ul style="list-style-type: none"> <li>• SPJ tool</li> <li>• Based on casework rather than academic literature</li> <li>• Used to assess the risks and needs of those convicted of terrorist extremism offences</li> <li>• Has 22 factors categorized into three domains:</li> <li>• Engagement</li> <li>• Intent</li> <li>• Capability</li> <li>• Not limited to a specific extremist ideology</li> </ul>
Pressman et al. (2018)	Violent Extremist Risk Assessment 2 -revised (VERA 2R)	<ul style="list-style-type: none"> <li>• SPJ tool</li> <li>• Used to evaluate various ideological types of violent extremism</li> <li>• 34 indicators specifically related to violent extremism divided in five domains:</li> <li>• Beliefs, attitudes, and ideology</li> <li>• Commitment and motivation</li> <li>• Social context and intention</li> <li>• Protective and risk-mitigating indicators</li> <li>• History, action and capacity</li> <li>• 31 additional indicators based on the scientific literature about general violence, radicalisation, jihadism and terrorism divided into five domains:</li> <li>• Criminal history</li> <li>• Personal history</li> <li>• Radicalization</li> <li>• Personality traits</li> <li>• Psychiatric characteristics</li> </ul>

personality attributes like rational and dependent decision-making styles, cognitive uncertainty, analytical cognitive style, and paranoid and schizotypal personality traits. Although a recent study involving people incarcerated for terrorism identified the role of antisocial personality disorder (Dhumad et al., 2020), robust empirical data in the field is still lacking (Corner et al., 2021).

In their critique of the literature, Corner and colleagues (2016) argued that the nature of the relationship between psychiatric illness and engaging in terrorist activities is complex and cannot be captured with a simple dichotomous approach.

### Risk Assessment Tools

The assessment of risk of radicalization to terrorism has gained some traction in the academic literature (Monahan, 2012; Smith, 2018). In addition to exploring the usefulness of the commonly used violence risk assessment tools, interest has grown in developing specific risk assessment tools to identify risk factors for radicalization and extremism (Monahan, 2012; Pressman, 2009; Smith, 2018). The American National Institute of Justice 2018 report (Smith, 2018) endorsed the use of violence risk assessment tools (e.g., the Historical Clinical Risk Management-20 [HCR-20v3], the Structured

Assessment of Violence Risk in Youth [SAVRY]) for assessment of terror subjects because of the overlap of risk factors for violence and terrorism (Smith, 2018). However, the usefulness of these risk assessment tools is still the subject of much debate in the fields of criminology, and forensic psychiatry and psychology (Monahan, 2012).

This has provided the push to develop numerous specific risk assessment tools for terrorism or violent extremism. These include the Revised Religious Fundamentalism Scale (Altemeyer & Hunsberger, 2004), the Violent Extremist Risk Assessment (VERA 2; Pressman et al., 2018), the Assessment and Treatment of Radicalization Scale (ATRS; Karimi et al., 2021), the Extremist Risk Guidelines (ERG22+; Lloyd & Dean, 2015; National Offender Management Service, 2011; Powis et al., 2021), and others. Table 2 provides an overview of the main risk assessment tools for terrorism and violent extremism.

The current risk assessment tools for terrorism or violent extremism differ in their scope, with some assessing fundamentalist religious views (e.g., the Revised Religious Fundamentalism Scale), while others focusing on group-based violence (e.g., Multi-Level Guidelines; Cook, 2014) or identifying those who are at risk extremist in correctional settings (e.g., ERG22+, Radicalization Risk Assessment in Prisons Toolset [Esgalhadó et al., 2018]). These tools have been criticized for being developed using publicly available data or case reports, and for lacking the empirical evidence for their usefulness (Conley, 2019).

A 2016 systematic review of these scales emphasized that they did not follow standardized reporting guidelines and lacked transparency (Scarcella et al., 2016). More recent reports (e.g., van der Heide et al., 2019; Waggstaff et al., 2021) provide a more nuanced appraisal of the limited usefulness of these tools.

## Legal Issues

The legal definitions of terrorism vary across international jurisdictions, as do the provisions of relevant legal concepts, like fitness to stand trial, criminal responsibility, and dangerousness. The *Criminal Code* of Canada defines terrorism as

*an act or omission that is committed ... in whole or in part for a political, religious or ideological purpose, objective or cause, and ... with the intention of intimidating the public, or a segment of the public, with regard to its security (Criminal Code, 1985, S83.01).*

Of relevance to the psychiatric assessment of individuals charged under the terrorism legislation are the issues of fitness to stand trial, dangerousness, and criminal responsibility on account of mental disorder. Table 3 provides more information about the legal criteria for these concepts as defined in the *Criminal Code* of Canada.

## Psychiatric Assessment

The psychiatric assessment of individuals charged with terrorism or those at risk of engaging in acts of terrorism requires a thorough understanding of the antecedents of terrorism, including risk factors; the assumptive role of mental illness, especially among lone actors; the relevant legal defences or concepts; and risk and threat assessment tools. Ho and colleagues (2018) proposed a clinical framework for identifying high-risk individual that can be incorporated into clinical assessments of terror subjects. This includes social factors (e.g., unemployment, family dysfunction, acquaintance with those who have committed acts of terrorism), clinical factors (e.g., history of violence, history of mental illness, suicidal or homicidal ideations), and acts specific to terrorism (e.g., fixation on political, religious or philosophical ideology, identification with a terrorist group).

Given the heterogenous nature of those who commit acts of terrorism, clinical assessments need to consider the unique circumstances of the individual (e.g., in terms of ideology, social factors, motivation, grievances, status [e.g., lone versus group actor], history of mental illness, criminal history, and other factors). Ultimately, clinicians should exercise clinical judgment about the merits of these factors, particularly in relation to case conceptualization and risk assessment, while acknowledging the limitations of terrorism research. Furthermore, clinicians should be aware of the relevant legal concepts, such as fitness to stand trial, dangerousness, and not criminally responsible on account of mental disorder.

## Conclusion

Radicalization to terrorism is a multi-faceted process that is influenced by a complex interplay of individual, social, environmental, psychological, and situational factors. Despite a relatively higher prevalence of psychotic disorders and autism spectrum disorders among those who commit lone acts of terrorism, the role of mental illness remains controversial. Although research in the field is evolving, the usefulness of risk and threat assessment tools in identifying those most at risk of engaging in acts of terrorism is questionable. The risk factors for terrorism are often

**Table 3**  
Criminal Code of Canada

Concept	Criteria
Unfit to stand trial	(2): Unfit to stand trial means unable on account of mental disorder to conduct a defence at any stage of the proceedings before a verdict is rendered or to instruct counsel to do so, and, in particular, unable on account of mental disorder to <ul style="list-style-type: none"> <li>(a) understand the nature or object of the proceedings,</li> <li>(b) understand the possible consequences of the proceedings, or</li> <li>(c) communicate with counsel</li> </ul>
Not criminally responsible on account of mental disorder	16 (1) No person is criminally responsible for an act committed or an omission made while suffering from a mental disorder that rendered the person incapable of appreciating the nature and quality of the act or omission or of knowing that it was wrong.
Dangerousness	753 (1) ... the court shall find the offender to be a dangerous offender if it is satisfied <ul style="list-style-type: none"> <li>(a) that the offence for which the offender has been convicted is a serious personal injury offence ... and the offender constitutes a threat to the life, safety or physical or mental well-being of other persons on the basis of evidence establishing               <ul style="list-style-type: none"> <li>(i) a pattern of repetitive behaviour by the offender, of which the offence for which he or she has been convicted forms a part, showing a failure to restrain his or her behaviour and a likelihood of causing death or injury to other persons, or inflicting severe psychological damage on other persons, through failure in the future to restrain his or her behaviour,</li> <li>(ii) a pattern of persistent aggressive behaviour by the offender, of which the offence for which he or she has been convicted forms a part, showing a substantial degree of indifference on the part of the offender respecting the reasonably foreseeable consequences to other persons of his or her behaviour, or</li> <li>(iii) any behaviour by the offender, associated with the offence for which he or she has been convicted, that is of such a brutal nature as to compel the conclusion that the offender's behaviour in the future is unlikely to be inhibited by normal standards of behavioural restraint; or</li> </ul> </li> <li>(b) that the offence for which the offender has been convicted is a serious personal injury offence described in paragraph (b) of the definition of that expression in section 752 and the offender, by his or her conduct in any sexual matter including that involved in the commission of the offence for which he or she has been convicted, has shown a failure to control his or her sexual impulses and a likelihood of causing injury, pain or other evil to other persons through failure in the future to control his or her sexual impulses.</li> </ul>

non-specific and overlap significantly with those of violence. Notwithstanding, there is some evidence that assessing these risk factors may help practitioners identify individuals who are most at risk of engaging in acts of terrorism. As noted by Smith (2018),

*there is increasingly strong evidence that these risk factors and indicators may help practitioners to distinguish between individuals who are more or less likely to attempt to conduct a terrorist attack, as well*

*as provide a foundation for prevention and intervention programs.*

In the absence of clinical guidelines with empirical support, a thorough understanding of cultural, psychosocial, and political factors help inform psychiatric assessments of terror subjects, promotes timely intervention, and opens opportunities for prevention. Research is needed to further our understanding of the radicalization process and to develop risk assessment tools.

**Conflict of interest:** none

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