

Terrorism Typologies and Considerations for Clinical Practice in Psychiatry

Robert Reid,¹ Reinhard Dolp,¹ Tariq Hassan,¹ Najat Khalifa¹

¹ *Psychiatry Department, Queen's University, Kingston, Canada*

Typology development entails systematically clustering related attributes among individuals or groups to examine trends that might explain complex human interactions and behaviours. This approach has demonstrated its usefulness in behavioural sciences with important implications for policy, etiology, course, and treatment. Our review article provides an overview of terrorism typologies and examines their implications for clinical practice. We argue that the theoretical nature and heterogeneity of existing terrorism typologies limit their clinical usefulness, highlighting the need to develop empirically driven typologies.

Key words: *terrorism, radicalization, psychiatry, risk assessment, mental health*

Although terrorism is a global phenomenon, legal definitions vary across international jurisdictions. The *Criminal Code* of Canada (1985) defines terrorism as “an act committed for ... a political, religious, or ideological purpose, objective or causes to intimidate the public ... compelling a person, a government, a domestic or an international organization to do or to refrain from doing any act.” A variation in legal definitions exists between the United Kingdom, the European Union, and the United States and is paralleled by a lack of consensus among political and social scientists about what constitutes terrorism. There are a few hundred definitions for terrorism in the literature (Borum, 2004).

Notwithstanding variations in legal and scientific definitions, research on terrorism increased substantially following the 9/11 terrorist attacks in New York City and Washington, D.C., in 2001. While much has been written about the psychosocial and politico-cultural antecedents of terrorism, little has been empirically proven (Corner et al., 2016; Demarais et al., 2017; Sageman, 2014). Although the scientific exploration of terrorism has advanced significantly in the last few decades, research into the theories of the radicalization to terrorism, terrorism typologies, and the role of mental health factors in the process is yet to reach scientific maturity (Candilis et al., 2021). Therefore,

it is not surprising that the public often turns to the media for credible information about terrorism (Lemyre et al., 2006). However, the common public perception that everyone involved in terrorism must have some form of mental illness is challenged by the empirical data (Misiak et al., 2019). Decades of research in the field has polarized established beliefs from one extreme (e.g., “they are all mentally ill”) to another (e.g., “by definition, a terrorist cannot be mentally ill”) (Candilis et al., 2021; Corner & Gill, 2015). Human behaviour is influenced by a complex interaction between an individual and their environment. Similarly, engagement in terrorism is a complex and multidimensional process that cannot be solely explained by any one factor (Gill et al., 2021; Horgan et al., 2018; Vasilenko, 2004). Dernevik and colleagues (2009) proposed that terrorism is influenced by a myriad of psychosocial, cultural, and geopolitical factors, creating a great deal of heterogeneity among terrorism groups. Dhumad and colleagues (2020) argued that many of the factors that have been linked to radicalization to terrorism are outside the sphere of mental health (e.g., poverty, political oppression, frustration).

Typologies in social sciences can bring clarity to complex constructs with the potential to inform social policy, but they are ultimately limited by their reliance on the theoretical underpinnings (Marsden & Schmid,

2011). A typology is an approach of systematically clustering related phenomena among individuals or groups to examine trends that might explain complex human interactions and behaviour. However, no universally acceptable terrorism typology or profile has been established to allow a systematic examination of terrorist groups and comparisons among different groups concerning antecedents, motivations, ideologies, and other characteristics.

Previous scholarly contributions that described terrorism typologies are primarily descriptive with some analytical consideration of their usefulness in understanding the phenomenon of terrorism (e.g., Marsden & Schmid, 2011; Schmid et al., 1988). Marsden and Schmid (2011) argued that terrorism typologies allow for conveyance and quick conceptualization of the topic of terrorism to an untrained reader. They suggest that a high level of abstraction was often needed for understanding terrorism in many of the typologies before 1988 and that developing a single unifying typology was nearly impossible. They are critical of the extensive use of deductive reasoning stemming from theories around terrorism versus an inductive or empirical approach. They presented a collection of approaches and theoretical perspectives as a means of forming a classification of terrorism typologies. Their work is highly detailed and representative of the typologies known at the time, but further work in the field has expanded the knowledge base in the last decade. Furthermore, their review did not sufficiently address the mental health aspects of terrorism typologies.

Present Study

We conducted a narrative review of the literature on terrorism typologies. We provide an overview of the most prominent terrorism typologies previously examined in the literature, including the group versus lone-actor typology. The review is meant to be representative rather than exhaustive, with a focus on the mental health perspective and the need to advance clinical and research knowledge in the field.

More specifically, we aimed to answer the following research question: Can terrorism typologies be used to inform the clinical practice of psychiatry or mental health care? Given the theoretical nature of most terrorism typologies, we adopted a narrative review framework and methodology to address the research question.

Methods

We conducted a literature search using Ovid MEDLINE, Embase, and PsycInfo using the

search terms for “terrorism” and “mental health” or “mental disorder.” A total of 2,830 entries were returned, but after a title and subject review by the lead author, removal of duplicates, and excluding non-English language articles, 181 articles remained. A search of the references of these articles found 15 more articles. Further full text review eliminated 179 articles for not being related to the subject of terrorism typologies. In the end, 20 articles were included in our final review, including 12 articles as examples of typologies based on psychological factors and eight articles examining group versus lone-actor typology.

Results

Study Characteristics

Table 1 describes the study characteristics. Most of the papers included in our review originated from the United States (Hacker, 1976; Horgan et al., 2018; Miller, 2006; Post, 1984; Wilkinson, 1977). Two studies adopted a broad international perspective on terrorism typologies (Bjørøgo, 2011; Corner & Gill, 2020). The remaining studies originated from Iran (Mozaffari, 1988), Iraq (Candilis et al., 2021), and Norway (Lia & Nesser, 2016). Most of the studies were theoretical in nature except for two studies. One study used the multidimensional scaling statistical method to define terrorism typologies based on secondary source data (Horgan et al., 2018). Candilis and colleagues (2021) applied latent class analysis on primary source data concerning a group of terrorists in Iraq, making it the only empirically based typology.

Table 2 describes studies involving the lone versus group-actor dichotomy, which were predominantly based on case reports (Corner & Gill, 2020; Gill et al., 2014; Gruenewald et al., 2013; Martens, 2004) and case series (Schuurman et al., 2019). One study used a cross-sectional design (Fernández García-Andrade et al., 2019) using the Terrorism Radicalization Assessment Protocol tool (TRAP-18). The remaining two were literature reviews (Corner & Gill, 2015; Gill et al., 2021). All studies were based on retrospective data, predominantly focused on subjects who had been criminally charged with terrorism-related crimes. One study (Gill et al., 2021) combined published and unpublished data, while the rest of the datasets were taken from publicly available records.

Terrorism Typologies

The earliest typologies include the one proposed by Hacker (1976), who identified those involved in terrorism as “crusaders, criminals, and

Table 1
Typology study characteristics

Author (year) country	Approach	Framework	Main features of typology (terms used in study)	Limitations or comments
Hacker (1976) U.S.A.	Theoretical	Ideological	<ul style="list-style-type: none"> • Crusader • Criminals • Crazyies 	<ul style="list-style-type: none"> • Lack of empirical data • Stigmatization
Wilkinson (1977) U.S.A.	Theoretical	Situational/ context	<ul style="list-style-type: none"> • Sub-revolutionary • Revolutionary • Repressive • Epiphenomenal (secondary) 	<ul style="list-style-type: none"> • Broad groups, non-exhaustive or exclusive • Does not cover all terrorism
Post (1984) U.S.A.	Theoretical	Psychodynamic	<ul style="list-style-type: none"> • Anarchic-ideologue • Nationalist-secessionist 	<ul style="list-style-type: none"> • Broad groups
Mozaffari (1988) Iran	Theoretical	Terrorist role	<ul style="list-style-type: none"> • Hijackers • Kidnappers • Shooters • Bombers 	<ul style="list-style-type: none"> • Evolution of Wilkinson's typology • Expanding on roles associated with subgroup
Gross (1990) U.S.A.	Theoretical	Outcome	<ul style="list-style-type: none"> • Mass • Random • Focused • Tactical 	<ul style="list-style-type: none"> • Categorized by the intended target of the violent act
Antonian (1998) Russia	Theoretical	Motivation	<ul style="list-style-type: none"> • State • Political • Religious • Criminal • Idealistic • Other 	<ul style="list-style-type: none"> • Motivations behind individual and group terrorists by their beliefs and intentions of their violent acts • Many overlapping groups • Lacking specificity
Miller (2006) U.S.A.	Personality theory	Terrorist role/ personalities	<ul style="list-style-type: none"> • Leaders • True believers • Unstable deceivers • Good soldiers • Worker bees • Limelight seekers 	<ul style="list-style-type: none"> • Applies personality subtypes to terrorist roles (e.g., narcissistic, paranoid, dependent, histrionic, schizotypal, avoidant, and borderline)
Bjørngo (2011) International	Theoretical	Dynamic group roles	<ul style="list-style-type: none"> • Ideological activists • Drifters • Followers • Socially frustrated 	<ul style="list-style-type: none"> • Idealized roles of terrorists within groups • May progress along a spectrum of involvement at different times
Lia & Nesser (2016) Norway	Case study review	Organizational structure	<ul style="list-style-type: none"> • Militant exiles • Support network in diaspora • Militant visitors • Attack cells • Homegrown extremists 	<ul style="list-style-type: none"> • Exploring jihadi terrorism specific to case examples from Norway • Based on open-source data
Horgan et al. (2018) U.S.A.	Multidimensional scaling	Functional behaviour	<ul style="list-style-type: none"> • Terrorist actors • Supporters • Facilitators 	<ul style="list-style-type: none"> • Data from open-source reporting • Media bias affected data

continued

Table 1 continued

Author (year) country	Approach	Framework	Main features of typology (terms used in study)	Limitations or comments
Corner & Gill (2020) International	Autobiography review	Motivating social factors	<ul style="list-style-type: none"> • Group identity • Group fusion • Group ideology • Group kinship 	<ul style="list-style-type: none"> • Actions portrayed favourably by authors of the autographies • Based on self-report, memory, retrospective
Candilis et al. (2021) Iraq	Cross-sectional	Latent class analysis	<ul style="list-style-type: none"> • Nonreligious nationalists • Oppressed instrumentalists • Aggrieved antisocials 	<ul style="list-style-type: none"> • Limited generalizability to terrorist groups outside of Iraq

crazies.” Among other things, this typology conveys the image of what those involved in terrorism were believed to be at the time. Perhaps, inadvertently, it also resulted in stigmatization by making assumptions about the moral attributes and mental fitness of those involved in terrorism.

Wilkinson (1977) classified terrorism based on situational contexts: sub-revolutionary, revolutionary, repressive, and epiphenomenal (meaning secondarily caused by). The inclusion of epiphenomenal distinction provides the nuance that, although terrorism can be due to public revolution or perhaps targeted by a regime to repress a movement, it can also come about as a secondary outcome and not actions in and of themselves. The inference is that terrorism can not only be a means to an end by a political group, but also the unintended natural response to another political movement.

Mozaffari (1988) expanded on the categorization of those involved in terrorism by Wilkinson by focusing on the nature of violent actions (e.g., hijacking, kidnapping, shooting). This distinction is somewhat approachable to the layperson, who may see the activities carried out to reach a political goal as the most salient feature to be reported on in media reports. It also highlights the relationship between the perpetrator of a specific act to the harm caused to the victims of the act.

The perspective of typology was further expanded by Gross (1990), who categorized those who committed acts of terrorism by the outcome, identifying categories such as mass, random, focused, and tactical terror. Motivations behind target selection of a specific group (or random fear) could further classify those involved in terrorism by discernable features of the scope of their violent actions.

As cited in Vasilenko (2004), Antonian (1998) further considered terrorism by the purpose of the actions and subdivided violent motivations into categories, such as state, political, religious, criminal, idealistic, and other. These classifications seem to fall short of defining terminologies that would be familiar to psychiatrists or other mental health professionals in understanding a patient who may be involved in or drawn into terrorism.

Post (1984), a psychiatrist and a notable American Central Intelligence Agency analyst, classified those involved in terrorism using a psychodynamic framework into two groups: the anarchic-ideologue and the nationalist-secessionist. The anarchic-ideologue was proposed for individuals with a history of childhood maltreatment, who displaced their hostility toward their parents as anger against the state (Post, 1984). The nationalist-secessionist was proposed for individuals who rebelled against society in retaliation for perceived wrongdoings by the state against their parents. This view of typology blended with individual factors (i.e., childhood experiences) to reflect how terrorism might manifest in the individual's approach to acting on their perceived maltreatment in early life.

More recently, and perhaps in a more familiar territory to mental health practitioners, Miller (2006) categorized those involved in terrorism by personality psychopathology. He classified those with personality disorder diagnoses of:

- *narcissism or paranoia as leaders;*
- *borderline or antisocial as true believers and unstable deceivers;*
- *avoidant or dependent as good soldiers and worker bees; and*
- *histrionic or schizoid/schizotypal personalities as limelight seekers and loose cannons.*

Table 2
Lone and group-actor study characteristics

Author (year) country	Study design	Framework	Main findings	Limitations/ comments
Martens (2004) International	Case reports	A review of secondary data of terrorist groups and lone actors between 1988 and 2002, with a focus on ASPD traits (DSM-IV)	<ul style="list-style-type: none"> • Hidden suffering • Awareness of being outcast • Envious of others • Feelings of revenge 	<ul style="list-style-type: none"> • Lack of a comparison group • Reliance on publicly available data
Gruenewald et al. (2013) U.S.A.	Case reports (1990-2010)	Analysis of secondary data to evaluate traits in lone actors committing violent crimes resulting in death	<ul style="list-style-type: none"> • Military backgrounds • Mental illness • Divorced, separated or widowed • After 9/11 • Use of firearms 	<ul style="list-style-type: none"> • Lack of a comparison group • Reliance on secondary source data
Gill et al. (2014) U.S.A. & Europe	Case reports (n = 119)	Lone actor and dyads	<ul style="list-style-type: none"> • No uniform profile • Increased social isolation • Wider group association • Others knew of grievances • Diverse preceding behaviour • Rarely sudden or impulsive • Third of lone actors having a mental illness at time of event • Broad behaviour and ideological association define lone actors before acts of terrorism 	<ul style="list-style-type: none"> • Lack of a comparison group
Comer & Gill (2015) U.S.A.	Literature review	Mental disorder prevalence	<ul style="list-style-type: none"> • Spectrum of risk for mental disorder highest in mass casualty events and lone actor, lowest risk group actors. • Compared to general population, lone actors have higher rates of schizophrenia and ASD, and lower rates than expected for depression 	<ul style="list-style-type: none"> • Comprehensive literature search • Direct comparison with group actors
Schuurman et al. (2019) U.S.A. & Western Europe	Case series (n = 125)	Lone actors versus lone wolves	<ul style="list-style-type: none"> • Lone actors interact with broad radicalization groups • Against lone wolf as sensationalism • Argues against loneliness as part of big movements 	<ul style="list-style-type: none"> • Lack of a comparison group
Fernández García-Andrade et al. (2019) International	Cross-sectional (n = 235)	Terrorism radicalization assessment protocol (TRAP-18)	<ul style="list-style-type: none"> • TRAP-18 is supported as potentially useful for evaluating risk for terrorism in people with mental illness 	<ul style="list-style-type: none"> • Retrospective bias • Small sample size • It can be used with other tools and applicable to future research

continued

Table 2 continued

Author (year) country	Study design	Framework	Main findings	Limitations/ comments
Corner & Gill (2020) Not available	Auto-biographical case reports (<i>n</i> = 90)	Disengagement from terrorist groups and relation to mental illness	<ul style="list-style-type: none"> • Membership to terrorism groups impacts mental wellness 	<ul style="list-style-type: none"> • Lack of a comparison group • First paper linking terrorism participation and effects on mental well-being
Gill et al. (2021) International	Systematic review (<i>n</i> = 1,705)	Relationship between mental health and violent extremism	<ul style="list-style-type: none"> • Multiple pathways to violent extremism exist (equifinality) • Rarely mental ill alone 	<ul style="list-style-type: none"> • Comprehensive review • Included published and unpublished data

ASD = autism spectrum disorder; ASPD = antisocial personality disorder

Although labelling of categories of those who committed acts of terrorism according to psychiatric diagnoses is theoretical in nature, this approach provides a common language that a forensic mental health clinician and a political analyst would both understand.

A seemingly more modern perspective on analyzing those who are involved in terrorism, Bjørge (2011) emphasized the dynamic nature of terrorism, with actors moving along a dynamic continuum: ideological activists, drifters and followers, or socially frustrated youth whose beliefs and willingness to carry out specific acts may change with time and circumstance.

Lia and Nesser (2016) classified those who have taken up a jihad in Norway by organizational structure into five categories: militant exiles, support networks in the diaspora, militant visitors, attack cells, and homegrown extremists. Classifying individuals and groups involved in terrorism by organizational structures adds further degrees of complexity to perspectives and analyzing groups that can be very different across geographical boundaries, cultures, and political machinations. Despite best intentions, the usefulness of these typologies has been limited by the overreliance on theory and secondary source data.

Candilis and colleagues (2021) applied latent class analysis (subdividing populations by observed manifest variables, optimizing

several distinct groups) to primary source data from a group of Iraqis who committed acts of terrorism. They defined three classes: nonreligious nationalists, oppressed instrumentalists, and aggrieved antisocials. The authors argued the model might be generalizable to low- to middle-income countries experiencing violent or civil conflict but limited in that their study involved only a sample of Iraqis. They argued that lone actors in active conflict zones (such as the Middle East) may differ from those operating in areas with less conflict; that the nature of the resistance and other contextual factors would help define the individual who may gravitate toward acts of terror.

Horgan and colleagues (2018) explored a multi-dimensional scaling model to examine subtypes of roles within the global jihadi movement. Although still theoretical, this approach can help develop an empirical approach to examining factors associated with role differentiation within individuals, organizations, supporters, and facilitators involved in acts of terrorism. A multifactorial approach to motivation influences, group participation, and openness to violence can inform the continued evolution of terrorism typology.

Group Versus Lone-Actor Typology

The group versus lone-actor terrorism dichotomy has gained traction in recent years and has highlighted the role of mental illness, particularly among

lone actors. Those who commit lone acts of terrorism (or lone wolves) do not belong to an established group, although they may still follow or be inspired by a group's ideology. Martens (2004) examined differences in DSM-IV (American Psychiatric Association, 1994) antisocial personality disorder (ASPD) traits among individuals and groups involved in terrorism. Martens reported that higher ranking people in groups were more likely to identify with concepts of hidden suffering, awareness of being an outcast, envy toward others, and desire to act on revenge. Many (but not all) had overlapping ASPD and narcissistic traits that would encourage their violent acts, particularly when in states of narcissistic rage. Despite public fears of social media radicalization, Martens found many lone actors were not as stealthy or highly capable as the lone wolf moniker might suggest, as many of the social interactions these individuals had acted as warning signs for the potential for terrorism activities months to years before an event occurs.

Gruenewald and colleagues (2013) defined lone actors at all stages with no affiliation with a confirmed terrorist organization or material support from other like-minded individuals. Additional features of the lone actor included history of military service, mental illness, and being divorced, separated, or widowed, particularly for those more likely to use firearms in the post-9/11 era. Nizami and colleagues (2014) found that in Pakistan, female suicide bombers were usually more likely to be motivated by revenge, whereas their male counterparts were driven predominately by political ideological or both factors. Numerous people involved in terrorism who were captured by the Pakistan Army were interviewed while in confinement and described dichotomized thinking of themselves as good and their victims as bad.

Although Gill and colleagues (2014) found that there was no uniform profile for lone or dyad actors, they tended to be socially isolated, religiously inspired, well educated, unemployed, and had interactions with wider groups of like-minded individuals. Further, the activities of the lone or dyad actors were rarely sudden or impulsive, but often others knew of their grievances. There was also a diverse range of preceding behaviour. The authors further suggested that one-third of lone actors in their dataset had a mental illness at the time of their terrorist act.

In a study by Corner and Gill (2015), group membership was often clouded in secrecy, cohesiveness, and the ability to complete complex tasks that might preclude membership by those with a mental illness. The risk for mental health disorder

was highest in those who engaged in mass casualty events and among lone actors who had higher rates of schizophrenia and autistic spectrum disorder, but lower than expected rates of depression.

Another dimension considered by Schuurman and colleagues (2019) implied the role of online communities in the adoption, motivation, and capability to commit acts of terrorism by lone actors through radicalization. This was further supported in Fernández García-Andrade and colleagues (2019), noting that many lone actors can be identified by their participation in online groups of like-minded ideologues. This dispelled the perception of a lone actors' loneness, but instead suggested they were supported by a geographically diverse virtual community.

Corner and Gill (2020) identified terrorism group social factors like group identity, fusion, ideology, and kinship as the main motivating factors for terrorism groups. Focusing on a sense of identity, belonging, and the confluence of individuals' beliefs creates an ideological connection between individuals who may be acting together and motivated to carry out acts in support of a movement that they feel a part of.

Pathological fixation (e.g., thinking and obsessing about acts of terrorism) is felt to play an important role in engaging in lone acts of terrorism (Gill et al., 2021). Although there are multiple paths to violent extremism, this rigidity in belief structure and propensity to become fixated on a belief or course of action is a risk for people who may engage in political violence.

Discussion

The scope of our narrative review was to review the evolution of terrorism typologies in the available literature and the applicability of these typologies to mental health care. The beginnings of terrorism typology could be compared with an effort to approach a heterogeneous spread of different ideological and political groups, trying to distinguish a pattern for analysis and research. Typologies have evolved since the 1970s to identify overarching themes to understand behaviour, predict who may be at risk, and assess the risk to the public (Gross 1990, Horgan et al., 2018). The earliest classifications developed around ethnic, religious, ideological, or national associations and psychological factors (Candilis et al., 2021; Desmaris et al., 2017). This seemingly common-sense approach has been a marked evolution in researchers' perspectives in the field during the last several decades.

Many of the earliest typologies are based on theoretical frameworks that may readily convey meaning to interested parties but lack the evidence

Figure 1
Categorization of Factors used in defining Typology of Terrorism

Individual or community

- Individual factors**
- Adverse childhood experiences
 - Parental attachment
 - Aggression/violence
 - Peer relationships
 - Mental illness
 - Marital status
 - Fixated beliefs
 - Personality traits
 - Ethnicity
 - Culture
 - Religion
 - Age
 - Criminal history
 - Education
 - Employment
 - Identity
 - Substance use

- Socio-economic**
- Oppression
 - Poverty/affluence
 - Perceived frustration
 - Group fusion
 - Societal unrest
 - Nationalism
 - Family loss
 - Legal consequences
 - Recognition
 - Loyalty

Group dynamics

- Group membership**
- Lone actor
 - Dyad
 - Small group
 - Large group
 - Dispersed/de-centralized
 - Global

- Group roles**
- Leader(s)
 - Actor/soldiers
 - Facilitator
 - Recruiter
 - Financier
 - Supporter

- Motivations**
- Right-wing
 - Left-wing
 - Revolutionary
 - Environmental
 - Ecoterrorism
 - Cyberterrorism

Degrees of terrorism

- Classes of terrorism**
- Political
 - Religious
 - Ideological
 - State supported
 - Single issue

- Types of terrorism**
- Government
 - Civilian
 - Military
 - Cultural group
 - Criminal

- Outcome/targets**
- Mass murder
 - Focused target
 - Random target
 - Suicidal attack
 - Cyberterrorism
 - Kidnapping
 - Hijacking

A natural hierarchy/progression of factors exist in defining typology based on individual factors, group factors, and comparisons between groups in how they are similar and dissimilar. Factors can be approached in multiple categories depending on the analysis researchers in terrorism typology choose to focus.

base to support their use for clinical assessments. They are heterogeneous and predominantly rely on theory rather than empirical data (Ho et al., 2019; Lia & Nesser, 2016). Empirical data are used in newer approaches to typology formation, but much of this is limited to the last decade. Most of the data available for these studies are derived from publicly available sources with an overreliance on secondary source material. The experts in terrorism research agreed that there is a need to develop empirically driven typologies (Candilis et al., 2021; Corner et al., 2018; Desmarais et al., 2017; Sageman, 2014). Despite some developments, no unifying typological approach exists. The typology proposed by Candilis and colleagues (2021) is an exception, but the overall clinical usefulness of terrorism typology

is limited. A variety of factors (see Figure 1) were found during our review of defining the many perspectives about terrorism.

In a comprehensive review of the available literature to that date, early typologies focused on the conceptualization of terrorism by political motivation, ideology, geography, and nature of acts (Marsden & Schmid, 2011). Later contributions focused shifted to root causes, organizational structure, culture, and terrorism roles (Marsden & Schmid, 2011). In the more contemporary literature, the focus has shifted toward the dynamic and ideological aspects of terrorism (Bjørge, 2011); what roles individuals may play in terrorist organizations (Lia & Nesser, 2016); the prevalence of mental health diagnoses among mass murderers, lone actors, and fixated

individuals (Corner et al., 2018); and the role of socio-political, ideological, and personality factors (Candilis et al., 2021).

Terrorist groups are thought to avoid recruiting people with mental illness due to the perceived instability that would interfere more than aid the aim of the organizations (Bhui et al., 2016). Instead, these groups prefer to recruit people who are middle class, educated, predominantly single males, and psychologically motivated; individuals they perceive to be better equipped to carry out politically motivated acts of violence in secrecy (Bhui et al., 2016). Further work by Corner and Gill (2020) underscores the significance of the lone versus group-actor typology and the prevalence of mental health diagnoses among those involved in terrorism. Examining the role of mental illness in political violence represents significant progress in the field, although its applicability to clinical practice is limited.

Clinical Considerations

Providing psychiatric assessment and care to individuals charged with or convicted of terrorism requires a thorough understanding of the geopolitical, cultural, and psychological factors underpinning terrorism behaviour. In the absence of empirically driven terrorism typologies, there is no substitute for conducting a thorough psychiatric assessment, contemplating the social, cultural, and psychological factors that have been associated with terrorism (Fernández García-Andrade et al., 2019).

Assessments should consider that the link between mental disorder and terrorism remains controversial, despite reports that certain mental disorders may be more prevalent among lone versus group actors, in particular psychotic disorders, autism spectrum disorder, and possibly depression. Although personality traits and fixated beliefs are important considerations, no single mental health diagnosis has been reliably linked to terrorism behaviour (Corner et al., 2018; Vasilenko, 2004). A recent *Campbell Systematic Review* and meta-analysis involving 73 samples did not support the assertion that those involved in terrorism have higher rates of mental health difficulties than would be expected in the general population (Sarma et al., 2022). Similarly, a recent study that examined differences in terrorism-related motivation, attitudes, and risk factors found no statistically significant differences among lone and group actors (Dhumad et al., 2022).

Clinicians may consider that terrorism subjects who are injured while completing terrorism acts are 12 times more likely to suffer from psychosis and

46 times more likely to suffer from a mood disorder than the general population (Misiak et al., 2019). There is a capacity for clinicians and allied health providers to address the mental health treatment needs of vulnerable individuals to identify, reduce, or eliminate risk before harm has occurred.

What actions can a clinician consider when approaching individuals who may participate in or be at risk of radicalization to political violence? Targeting the symptoms and severity of mental health conditions may mitigate the risk of participation in terrorism activities, which may be motivated by psychiatrically bound fixation or paranoia-based thinking (Dernevik et al., 2009). A harm reduction model may be poorly named in its approach to assessing and treating such individuals, but a stepwise approach to treatment may be beneficial. Martens (2004) hypothesizes that those at risk of committing acts of terrorism may have an undiagnosed or sub-threshold symptoms of mental illness. Interventions to reduce the burden of mental illness, improve living conditions, improve resilience to stressful events, and address rigidity to politically aligned beliefs may reduce risk among the population vulnerable to terrorism recruitment and motivations for the lone actors (Lia & Nesser, 2016). This approach may help understand how to reduce societal pressures toward political violence, and supporting the mental health of such individuals may be an imperfect but available strategy to tackling the modern terrorism phenomenon.

Strength and Limitations

The main strength of this review is that it provides an overview of the main terrorism typologies with a focus on their applicability to clinical practice. Although the existence of terrorism typologies represents an important development in terrorism research, the clinical usefulness of these typologies remains limited. Nonetheless, our review can serve as a quick reference guide for clinicians.

At the same time, our review is limited by its narrative scope and inclusion of a relatively small number of studies. In addition, existing typologies fall short of examining the role of cognitive factors and specific mental health-related behaviours, such as suicide, as a means of political violence. There is a body of literature of suicide terrorism (e.g., see Sarma, et al., 2022), which merits further investigation in future studies relating to terrorism typology.

We acknowledge that although our review brings together many theories and empirical evidence around typologies, it falls short of proposing a framework for establishing new terrorism

typologies. Instead, statistical approaches that incorporate and build on theoretical typologies is the logical next step based on the state of the literature and the needs of clinicians.

Conclusion

The evidence base for existing terrorism typologies has limited applicability to ideological or geopolitical dissimilar terrorism groups. By understanding terrorism typologies, and individual and group factors in a dynamic process of radicalization to terrorism, hope exists in identifying, stopping, and perhaps rehabilitating individuals back into society. Overreliance on theory or secondary source data hampers progress in the field and limits opportunities for developing typologies that identify those at risk. A robust examination of the role of psychopathology, family, childhood, ideology, social, and cultural influences that link to terrorism can aid in empirical typology development. Approaches such as latent class analysis and multidimensional scaling could help identify those at risk of radicalization, intervene early, decrease global terrorism burden, reduce public fear, encourage disengagement, and support rehabilitation. Further work in the field is necessary to establish more empirical evidence to guide clinical actions, but introducing and examining typologies to clinical practitioners can be a step toward understanding both the individual and the context that drives political violence around the world.

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Corresponding author

Robert Reid, Psychiatry PGY-4, Queen's University, 76 Stuart Street, Kingston, ON K7L 2V7, Canada; reid@qmed.ca