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Either or? Reconciling findings on mental health and extremism using a dimensional rather than categorical paradigm

ABSTRACT

The background for this paper is the debate over what role mental illness plays in radicalization to violent extremism. While one camp points to cases of abnormal functioning of perpetrators, another argues that normal psychological mechanisms are central.

Through a review of these perspectives, it becomes clear that mental illness cannot be ruled out as an epi-phenomenon, but is not a necessary condition either. The paper draws on work in psychiatric nosology on dimensional and categorical conceptions of illness and argues that the perspectives in this literature reflect a categorical approach to normal and abnormal functioning. Under a dimensional perspective, findings converge.

The paper concludes by showing how this new dimensional approach to the role of mental illness in radicalization has implications for the design of risk assessment tools and leads to the recommendation for stronger inter-agency cooperation between mental health professionals, social services, and police and intelligence services.

KEYWORDS

Forensic science; forensic psychiatry; terrorism; personality disorders; dissent and disputes; review.

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On February 15, 2015, Omar El-Hussein carried out a terror attack at a synagogue and at a cultural event on blasphemy and freedom of expression in Copenhagen, Denmark, killing two and wounding five. The assailant had previously served time in prison on several occasions – all related to violence – and had been associated with local organized crime groups. Although he had repeatedly been reported to Danish authorities for risk of radicalization to terrorism, and had shown difficulty keeping healthy social relationships, he did not receive psychiatric treatment as no "serious" mental illness was indicated. A month after being released from his fourth stint in prison, he carried out the attacks.

In the literature on violent radicalization, a decades' long debate concerns the role of mental illness and abnormal psychology. In one perspective, since diagnosed or diagnosable mental illnesses play a role in only a small subset of cases, they are allotted no causal role in radicalization. Rather, the true causes of radicalization are general psychological mechanisms and group psychology and societal conditions. A competing perspective points to the incidence of diagnosed mental illness in qualitative and quantitative studies of lone-actor extremists in particular. These competing perspectives have existed side by side for some time, and the pendulum of academic consensus has alternated between the two. As tempting as it is to abandon the question altogether and focus the research resources elsewhere, more recent work from quantitative and qualitative studies point the way to solving this either/or issue.

In this paper, a third approach is proposed. By looking at normality and abnormality as points on a spectrum rather than as dichotomous categories, the two seemingly contrasting approaches can be reconciled. Thus, it is possible to go beyond asking *if* mental health issues play a role in radicalization to ask *how* and *when* this is the case. This approach has implicitly driven recent work into mental illness and radicalization, but has not yet been explicitly stated (1). Among lone-actor extremists, a large proportion show aversive behavioral patterns, and among a subgroup of lone actors, the peripheral ones, abnormal functioning is a majority characteristic. Recent empirical work with the general

population indicates that those who support violence in the population tend to have elevated scores on sub-clinical measures of personality functioning.

In a dimensional approach to psychological functioning, mental health issues should be understood not simply as correlates, but as interacting with situational factors to cause radicalization. This paper argues that sub-clinical, but problematic, behavioral patterns work in tandem with social dynamics, such as social networks, to increase the risk of violent radicalization. An exclusive focus on either social dynamics or mental illness produces a blind spot in counter violent extremism practices, and increases the risk of not identifying threats in time for effective intervention. This paper extends existing studies by explicitly calling for a dimensional perspective on the role of mental illness in radicalization to violent extremism, by showing how hitherto contradictory findings can be reconciled through this perspective and considers the practical implications for the design of future risk assessment tools and the organization of preventive and interdiction work.

Old and new findings

In the 1980's, older psychoanalytic approaches to terrorism stressed mental illness (2, 3). However, in the 1990's and 2000's, methodological and theoretical criticism of the early literature caused a shift of focus to the rational elements and normal group mechanisms driving radicalization (4). For example, in Atran's (5) view, seeing mental illness as an explanation for suicide terrorism is a case of the fundamental attribution error, whereby people are more likely to explain behavior in terms of individual traits rather than situational or geopolitical factors. For Atran, pathological functioning is the opposite of a rational mindset and individual explanations the opposite of social ones. Silke (6) reviewed the empirical evidence – or lack thereof – for asserting that terrorists suffer from antisocial, narcissistic or paranoid personality disorders. He concluded that the evidence for the pathological approach was, at that time, of poor quality and that explanations based on normal processes were quantitatively and qualitatively more convincing. This line of research spawned a psychological literature based around

investigating the role of normal psychological processes in radicalization (7, 8). As McCauley and Moskalenko wrote in the introduction to their influential 2017 book, "One common account of radicalization is missing: Nowhere do we suggest that radicalization is explained by abnormality or psychopathology. Rather we aim to show how normal people can be moved toward criminal and violent behavior by normal psychology" (9: 12).

Related to this dichotomy between normal and abnormal functioning is the tendency to create "terrorist" and "mentally ill" as two mutually exclusive categories. This paper focuses on the dichotomy between rationality and mental illness, as the problems inherent in the terrorist/mentally ill dichotomy and how to transcend it has been discussed at length elsewhere (1). Despite the existing critique of "false dichotomies," the literature diverged in the sense that conflicting claims of the primacy of pathological and normal functioning currently coexist. One central criticism of the psychopathological perspective has been the lack of one specific *type* of terrorist or radical, where type is understood as a certain category of individual abstracted from situational constraint (10). Apart from different kinds of radicalism, such as left-wing, right-wing or religious, there is a distinction between different roles within radical groups as well as different motivation for each. Distinguishing between different kinds of mental illness, while a commendable first step, does not solve the issue of the sharp distinction between normal and pathological functioning. No categorical scheme, for example the personality disorders contained in the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-5; 11) can explain radicalization (12). While the terrorist/mentally ill dichotomy can be resolved through incorporating a more fine-masked diagnostic net and considering other factors, moving past the rationality/mentally ill dichotomy requires a paradigmatic shift in how we understand mental illness.

The lack of a higher incidence of diagnosed mental illness in terrorists compared to non-criminal control groups was seen as the central argument for focusing on normal psychological and sociological processes in radicalization (13). The consensus at the beginning of the current decade was that labeling

terrorists as pathological caused more harm than good in terms of reaching practicable models of radicalization (14, 15). Using mental illness as a catchall explanation, the argument goes, risked missing the role of political and social grievances and intergroup processes required to predict and interdict future plots. Furthermore, it risked stigmatizing all radicals, reducing them to being simply 'deviant'.

Despite these critiques, the dichotomy contrasting mental illness and rationality is not necessarily the best or most helpful way of understanding radicalization. Rather, it creates yet another false dichotomy, an either/or proposition between two concepts that are not each other's opposite, as pointed out by Moloy and Yakeley in their contemporary psychoanalytical approach to understanding terrorism (2, 16). Models of human behavior ought to incorporate both stable individual differences in functioning as well as situational factors. Today, mental illness is rarely seen as existing in a vacuum. Rather, mental illness is the consequence of dispositional vulnerabilities and situational stressors or triggers (12).

Consequently, a more recent literature has begun to reevaluate the role of mental illness in radicalization. Rather than simply reverting to the former unilateral focus on pathology, these papers have focused on distinguishing when and in what kinds of radicalization mental illness may play a role, using more varied control groups. Corner and Gill (17) show that mental health problems have again become popular folk explanations for terrorism in the time of ISIS. Interestingly, they argue that one reason for this is that mental illness is actually a relevant factor in some cases of religious radicalization, and that a blanket rejection would be wrong. For example, Gottschalk and Gottschalk (18) used the Minnesota Multiphasic Personality Inventory (MMPI-2), a standardized test of adult personality and mental illness, to assess incarcerated Palestinian and Israeli terrorists. They found elevated scores on the subscales that measure psychopathic, paranoid, depressive, schizophrenic and hypomanic tendencies. Merari and colleagues (19) investigated attempted suicide bombers by using control groups of other terrorists and non-political violent criminals. They concluded that depressive symptoms and diagnosed avoidant-dependent personality disorder distinguished the suicide bomber profile from the other

groups, illustrating the value in distinguishing between different *kinds* of radicals. Following this approach, Gill, Horgan and Deckert (20) investigated mental health in a sample of 119 lone-actor extremists stratified into right-wing, single-issue and al-Qaeda related extremism. There was a significantly higher incidence of existing mental illness in single-issue extremists than in other types of lone-actor extremists. More than half of the lone-actor extremists showed pre-event signs of mental illness. Using the same sample of lone-actor extremists and contrasting them with group-based terrorists, lone-actor extremists were again much more likely to suffer from mental illness than the group-based terrorists (2).

Distinguishing between different kinds of mental illness and between different kinds of extremists protects against grandiose claims that a limited number of categories of mental illnesses can explain all terrorism. It is undoubtedly a step in the right direction. However, this paper argues that we must go one step further. As Corner and Gill argue (1), as long as the question concerns *if* mental illness plays a role, it retains a categorical understanding of either-or, because it encourages a dichotomous yes or no answer. The next paragraph presents our approach. It argues that a dimensional perspective of psychological functioning allows for a more nuanced understanding of the issue.

A dimensional perspective on mental illness

In psychiatric nosology, the classification of mental diseases, a foundational issue concerns whether mental illnesses are categorical diseases or expressions of the extremes on dimensions ranging from normal to abnormal functioning (21). The categorical model of mental illness views the diagnostician's work as one of asserting the presence or absence of a certain disorder. Using the categorical paradigm of mental illness to explain the processes driving radicalization and terrorism risks promoting the catchall explanation mentioned above, including branding all radicals as deviant. However, both in the American DSM-5 and the upcoming 11th edition of WHO's International Classification of Diseases (ICD-11), the conceptualizations of mental disorders incorporate a dimensional perspective in the

diagnostic criteria (22). This change is partly due to several meta-analyses that point to a large overlap between extreme scores on normal personality inventories and reaching the diagnostic thresholds for personality disorders (23).

Taking a dimensional view of mental illness means reevaluating the divergent perspectives within the literature reviewed above. Rather than asking if mental illness is or is not present in radicalization and terrorism, we ought to look at the range of functioning from adaptive to maladaptive behavior. Furthermore, the dispositional and social explanations should not be seen as competing perspectives, but rather as parts of a larger whole. Such an approach was taken in a study of 608 British Muslims that measured a range of sociodemographic factors and included anxiety and depression inventories to investigate sympathy for violent protests and terroristic acts (24, 25). Participants who indicated sympathy for violent protest and terrorism were more likely to have more elevated depression scores and fewer social contacts than those who did not sympathize with violent protest. The authors stressed the need for more research combining social and dispositional factors, in particular normal and abnormal personality development. A public health, rather than merely a criminal justice approach, seems indicated to help alleviate some of the issues identified (26). At the same time, such an approach might more easily incorporate the work on how psychological vulnerabilities and patterns that fail to reach the threshold for a clinical diagnosis interact with environmental stressors (6). Arguably, the dimensional perspective already implicitly informs these approaches. However, as the next sections show, making the dimensional perspective the explicit paradigm for understanding the role of mental illness and terrorism offers a way of integrating such studies of broad groups in society with work on the much smaller pool of actual terrorists.

As a response to the empirical and methodological criticism of the psychoanalytical perspective on the pathological terrorist, ad-hoc explanations of "*minor* psychopathology" have been proposed as explanations for why terrorists could simultaneously be considered rational and abnormal (6). However,

in the critique of this attempted balancing act, the false dichotomy between rationality and abnormality emerges yet again. "*Minor* psychopathology" is simply a third category between normal and abnormal in the categorical paradigm. The dimensional perspective approaches the question in a fundamentally different way and with more empirical backing than the "*minor* psychopathology" approach had.

The biggest advantage of a dimensional approach lies in rejecting the dichotomous question of whether mental illness plays a role in radicalization and terrorism. Rather, a dimensional approach can make sense of findings concerning both the "rationality" of political violence and the evidence that pathological functioning plays a role in some cases but not others. Importantly, such a perspective is empirical, and does not support the tautological labeling of terrorists as "crazy" because they do "crazy" things.

In the following, two strands of recent work are presented. From a categorical approach to mental illness, these strands seem disparate. However, in a dimensional perspective, they are closely related. The first of these are the pathways that emerge in analyses of the events leading to lone-actor extremist attacks. Lone-actor extremists are often characterized by behavior somewhere along the spectrum from adaptive to maladaptive functioning and differ in terms of situational restraints and triggers. While some lone-actor extremists integrate fully into larger radical groups or movements before engaging in their own violent projects, others remain at the periphery of the radical groups or criminal networks they come into contact with (27, 28). It is particularly within this latter group of lone-actor extremists that evidence of maladaptive functioning is to be found. The second strand of work has attempted to incorporate the literature on extreme expressions of normal personality and sub-clinical expressions of abnormal personality into the study of support for political violence in the population. In the last section, implications for policy and future research are considered.

Diverging pathways to lone-actor extremism

While mental illness is greatly overrepresented among lone-actor extremists compared to the general population and group-based terrorists (29), the majority of lone-actor extremists (about 68%) do not appear to suffer from diagnosable mental health issues (2). At the same time, about half of lone-actor extremists are socially isolated, meaning that about half are not (20). A dimensional approach to mental illness could help cast further light on these findings. By combining a focus on dispositional and situational factors, it becomes easier to explain how maladaptive functioning shape radicalization and why some individuals – socially isolated or not - end up pursuing violence alone.

Recent qualitative research on lone-actor radicalization suggest that pathways of radicalization of lone-actor extremists can be clustered into two main types – *embedded* and *peripheral* (30, 31, 27). The main distinction between these two pathways is the degree to which the lone-actor is integrated into radical groups prior to engaging in lone violent action. As the term implies, embedded lone-actor extremists are attackers who, during radicalization, become embedded in larger radical groups or movements, but end up planning and carrying out attacks alone. This form of radicalization has much in common with group-based radicalization, where individuals, through either social networks or personal preferences, are exposed to radical groups and are socialized into a radical mindset and behavior. Often, this happens concurrently with intense social interaction and small-group dynamics (7, 32; 33). Findings indicate that this form of lone-actor extremist radicalization is characterized by normal, social-psychological group processes and adaptive functioning of the lone actors within the radical setting (31, 34). They display a capacity for social interaction and are often well-liked and respected within the radical group. A case in point is Mohammed Bouyeri, who shot killed the Dutch intellectual Theo van Gogh in Amsterdam in November 2004 (35). These lone-actor extremists are generally not socially isolated and mental illness, clinical or sub-clinical, is rarely an issue (36).

The key question that presents itself when it comes to embedded lone-actor extremists is why they opt for individual violent projects despite the opportunity for collective violence. Often, the choice of

going solo is a product of the rational calculation that they are more efficient alone, as in the strategy of 'leaderless resistance' (36, 37). Embedded lone actors display adaptive functioning and reasoning. This is also the case for their attack planning and preparation, which is likely to be more prolonged, more careful in terms operational security, and less likely to show leakage behavior than peripheral types of lone-actor extremists (31).

In contrast to embedded lone actors, peripheral lone actors never become fully integrated in the extremist groups they frequent. Peripheral lone actors remain at the margins of radical groups or movements. They do so for a variety of reasons. Chief among these are clinical mental health illness and sub-clinical, but problematic behavioral traits, which result in maladaptive functioning in social contexts (27). The pattern of peripheral lone-actor radicalization is one of conflictual social interaction, rejection and marginalization, which leads to further social self-isolation (30, 38). Where a lone attack is often a strategic choice among embedded lone actors, it is the only option for peripheral lone-actor extremists. Clinical and sub-clinical mental illness, such as narcissistic tendencies, psychopathic traits, uncontrolled aggression, severe introversion or apathy seem to cause maladaptive social functioning in peripheral lone actors who display erratic, aggressive or dominant behavior, which lead radical groups to reject them (27; see also 2: 30). The peripheral pathway of lone-actor radicalization has a volatile or circular logic to it, where the individual, because of maladaptive behavior, flitter between social contexts - some being radical, some criminal/gang-related, some religious and other characterized by a hedonistic lifestyle, including alcohol and substance abuse. Anders Behring Breivik, who killed 77 people in Oslo and on Utøya island in Norway in 2011, and Mohammed Merah, who killed seven and wounded five in gun attacks in southern France in 2012, are examples of this radicalization pattern.

Compared to the embedded lone-actor extremists, the peripheral pattern of lone-actor radicalization appears less rational, more abrupt and higher paced. The move from hatching the idea of a lone attack to concretizing plans happens, on average, three times faster among peripheral rather than among

embedded lone actors (39). The peripheral lone actors show less capacity for careful and rational planning and are more likely to engage in only rudimentary planning, diverge from the planned target during preparation, leak intentions and fail to take measures to protect operational security (31: table 3).

The different pathways of embedded and peripheral lone-actor radicalization are robust across ideologies and context. Yet, they are ideal types that rarely appear as such empirically, and may be more difficult to separate in practice. Still, the distinction between the embedded and peripheral lone-actor radicalization pathways maps onto the dimensional perspective of mental illness and help make sense of inconclusive empirical findings in the area. Viewing normal and abnormal functioning on a continuum rather than as different categories makes it possible to investigate the degree to which sub-clinical, but problematic behavior shapes capacities for social interaction and radicalization pathways. Some peripheral lone actors have histories of mental health illness, but many more show maladaptive functioning in social contexts. This helps to explain why half of all lone-actor extremists can be described as socially isolated, with most of the non-socially isolated lone-actor extremists falling in the embedded category. It also helps explain why peripheral lone actors end up pursuing violence alone despite being exposed to and in contact with radical groups. The dimensional perspective on mental illness overcomes the false dichotomy between mental illness and rationality identified in the literature (2) and open up the possibility of investigating the interplay between personal dispositions and social interaction in lone-actor radicalization. In this perspective, lone-actor radicalization can be ordered along a continuum. At one end, there are the cases that are similar to group-based radicalization, shaped predominantly by normal social-psychological processes and adaptive functioning in social contexts. This characterizes many embedded lone actors. At the other end of the continuum are cases of clinical mental illness, which characterizes some peripheral lone actors. Between the first and second pole are variants of sub-clinical, but problematic and disordered behavior. Returning again to the case of Omar El-Hussein set out in the introduction, it becomes apparent that he too fits this perspective well. While the psychiatric investigation concluded that he did not reach the cut-off for receiving

psychiatric treatment, he does not seem to have been functioning well enough to build a stable existence. Difficulty building and retaining social relationships and a tendency to react violently meant that psychosocial interventions designed for the people who show adaptive functioning were unlikely to help him. Many peripheral lone actors can be placed along the continuum stretched out between these poles (31). This approach draws support from another, but compatible, body of literature into radicalization. This is considered below.

Subclinical traits: from perpetrator to population

Another line of research, one that differs substantially from the lone-actor extremism research but converges on similar conclusions, is that of large-scale population studies of support for and willingness to engage in political violence. In this line of research, which is usually based on surveys of representative or quasi-representative samples of the adult population, support for political violence and extremism is usually paired with measures of normal or problematic but not pathological personality (e.g. 24, 40, 41). The central advantage of this kind of research is that it allows for the use of quantitative analysis. The drawback is that the subjects in the samples are typically neither extremist nor on the authorities watch list. However, this weakness is mitigated by studies such as those above that focus specifically on small samples of actual violent extremists.

Trait aggression, the tendency to respond with aggression to pressures across situations, has been linked to various forms of violent protest and support for extreme repression of dissenters (42, 43). Low agreeableness, a normal personality trait associated with interpersonal warmth and empathy, is negatively related to engagement in illegal political protest (44). Other traits incorporating the 'darker' sides of human nature, such as authoritarianism and social dominance orientation, are related to support for political and religious violent extremism (45, 40). These studies and the indication that measures of normal individual variance capture some of the variation in support for and engagement in

extreme political expressions point to a possible bridge to the results of the studies of embedded and peripheral lone-actor extremists.

In the psychological literature, a specific approach looks at the role of "dark side", sub-clinical personality dispositions. These are traits that do not meet the threshold for diagnosable disorders, but are nevertheless interpersonally problematic. These traits sit on the spectrum between normal functioning and clinical personality disorders (46). In the long run, possessing such tendencies tend to lead to individuals becoming socially isolated, which might explain elements of the pathway of isolated peripheral lone-actor extremists. Subclinical psychopathy, indicating a callous lack of empathy and desire to manipulate others, is related to interpersonal aggression as measured by the "Dark Triad" (46). To the degree that it involves cruelty, the subclinical sadism trait is also related to aggression, as measured by the "Dark Tetrad" (47). It seems likely that it is also related to interpersonal aggression that takes on a political dimension such as attacking authorities or threatening members of other political groups.

This body of research is valuable to the issue at hand not in spite of it taking a different approach to studying extremism, but because of it. From a categorical perspective, the value in the finding that subclinical traits and depression is related to support for violent extremism is not immediately clear. Since these dispositional factors concern sub-clinical traits and the outcome measures do not target actual participation in violent extremism, they might be dismissed as irrelevant. In a dimensional perspective, in contrast, these studies simply target another point on the spectrum of functioning. That the findings from population samples converge with those of studies of actual perpetrators, namely on the role of aversive, but not pathological, individual predispositions, shows the benefit of considering different data sources. In processing along the continuum of increasing support for illegal and violent political actions and ideology, there may be a parallel increase in the probability of more disturbed psychological functioning. Importantly, this should not be understood deterministically, in the sense

that a point on the "extremism" spectrum corresponds to a point on the spectrum of normal-abnormal functioning. Another benefit of this approach is that it does not preclude an appreciation of social-psychological and sociological factors in support for and engagement in violent extremism. For example, for embedded lone-actors, important contributing factors include the violent group itself, the identity that it offers to participants, and in making violence seem less aversive to the individual (48). Again, rather than seeing the two perspectives as competing to offer the final cause, the equifinality of different pathways is no longer problematic. A dimensional approach inherently accepts this. One model of personality, the six-factor HEXACO model, suggests a way to integrate normal and abnormal personality functioning. In addition to normal traits, the HEXACO model includes the Honesty-Humility trait, which is negatively correlated with the sub-clinical factors mentioned above. Thus, it provides a way to understand normal, subclinical and pathological personality structure as existing on a single dimension (49). A similar approach informs the Personality Inventory for the DSM-5 (22).

In summary, the dimensional approach to mental illness is better suited to understand the convergence of findings from studies of terrorists and lone-actor extremists and quantitative studies of population support for political violence. The next section discusses the implications that a shift in focus to a dimensional focus can have for future research and policy practice in this area.

Implications and conclusion

Applying a dimensional perspective of mental illness to the study of terrorism and radicalization has important implications for future research and practical interventions. The biggest advantage of this approach for future research is to explicitly avoid a reductive either-or approach to the role of mental illness in violent extremism. Empirically, sub-clinical personality disorders matter to the development of violent extremism. Viewing mental illness in a dimensional perspective avoids exceptionalizing mental illness as a factor in violent radicalization. Rather, it begins to reconcile the way that many suffering from mental illness can display adaptive functioning and how those not meeting the

diagnostic criteria for a diagnosis may nevertheless show subclinical, but problematic behavior and abnormal functioning. In this way, we are better suited to navigate the risk of essentializing the 'mentally ill terrorist' and recognize how these individuals often encapsulate traits and behavior from both the realms of the normal and abnormal.

Furthermore, only by studying person-situation interactions, including maladaptive social behavior flowing from sub-clinical personality disorders is it possible to move away from simply listing indicators and correlates of extremism – be it personal or situational – and begin to determine causal pathways of radicalization. A categorical approach leads researchers to assess the presence or absence of clinical mental disorders as an indicator of terrorist radicalization. The focus ought to be *how* clinical or sub-clinical mental health issues shape capacities for adaptive social functioning and the specific radicalization pathways. A dimensional perspective, on the other hand, provides a starting point for exploring the large middle spectrum of such person-situation interactions.

In terms of practical implications, the either-or focus on mental illness risks treating the subclinical cases as less worrying, subsequently withholding the help from mental health professionals that could be warranted. A paradigmatic shift to a dimensional perspective on normal and abnormal functioning in radicalization can reduce this risk and highlights aversive social interactions caused by subclinical mental health disorders as important indicators of radicalization. Applying such a perspective, radicalization prevention practitioners will be better equipped to bridge the dominant perceptions of radicalization to violent extremism as either a process of social isolation of 'crazy' individuals or a process of progressing integration and socialization into radical groups leaving individuals 'brain washed' and ready for violence.

The dimensional perspective supports the use of psychometrically sound measures of radicalization and extremism in practice, but strictly warns against measures that use cut-off scores that dichotomizes no risk and risk. A 2016 review of the quality of 30 applied and theoretical measures concluded that most

measures lacked validation (50). One of the validated measures that the dimensional perspective would support is the Terrorist Radicalization Assessment Protocol (TRAP-18) studied by Meloy and Gill (51). TRAP-18 is used to evaluate 18 warning signs, and has been used to retrospectively predict violent and nonviolent incidents (52, 54). Importantly, it does not rely on cut-off scores. In developing tools for use by practitioners, a dimensional perspective should be foundational. This is exemplified in a recently validated scale measuring endorsement of extremism and acceptance of violence as a sliding scale rather than an either/or proposition (54). In addition to avoiding cut-off scores, future assessment tools of radicalization should consider how maladaptive functioning stemming from elevated scores on sub-clinical personality measures may show up as conflictual and discontinuous social relations rather than social isolation per se. Thus, rejection from radical groups may be as worrying a precursor of radicalization as socialization into radical groups or general social isolation.

A dimensional perspective on mental illness also calls further attention to the importance of multiagency collaboration in addressing radicalization. We must avoid the situation where individuals with normal functioning and deviant behavior (i.e. the criminal) are only treated as matters for the police, individuals with abnormal functioning only receive attention from the mental health care system, and cases of non-clinical but maladaptive functioning remain within the domain of the social services. The new empirical findings discussed here show how these boundaries are often artificial and blurry when assessing the risk of radicalization in practice. In order to respond to, for example, the inconsistent and often volatile pattern of peripheral lone-actor radicalization, authorities need to come together across organizational boundaries in assessing risks. Fortunately, this is already the case in several places, in particular in the Scandinavian countries (55) and the UK (56). The peripheral lone actor or the foreign fighter crossed over from organized criminal will no doubt come to the attention of different authorities at different points in time, but without multiagency collaboration there is a risk that the dots are not connected in time and that these cases slip through the institutional net. Returning to the case of Omar El-Hussein is illustrative. Several authorities, including the police, the social

services and the criminal justice system, recognized his signs of maladaptive functioning. However, his problematic behavior was never holistically assessed and connected to his sub-clinical antisocial traits. Had there been stronger cooperation between psychiatric hospitals and the criminal justice system in 2014, when it was decided that Omar El-Hussein should not be referred to psychiatric treatment, as the current perspective argues there should be, he might have been offered more support. Whether this would have disrupted the path towards the attack is speculative. However, the facts remain that Omar's case fell between two seemingly mutually exclusive perspectives, because he fit neither into the categories of the "rational" or "mentally ill" terrorist. A dimensional perspective could help to shed light on similar cases in the future.

By looking at normality and abnormality as points on a spectrum rather than as dichotomous categories, the decades' long debate on the role of mental illness and abnormal psychology in radicalization and extremism can be reconciled. By moving beyond asking *if* mental health issues play a role and instead asking *how* and *when* this is the case, we can better understand that mental health is neither an epi-phenomenon nor simply a correlate, but focus on how it interacts with situational factors to cause individuals to radicalize. Understanding mental health issues is not about uncovering whether some switch is on or off. Those who support violence in the population tend to have elevated scores on sub-clinical measures of personality functioning. Among lone-actor extremists, an even larger proportion show aversive behavior, and among a subgroup of lone actors, the peripheral ones, more than half show signs of abnormal functioning. The implication for practice is clear: use of dimensional assessment tools and closer cooperation between radicalization prevention agencies and institutions, such as intelligence agencies and the police, the social services, and mental health professionals could help bridge the gaps in interventions, and avoid losing people that do not fit into one single category. The dimensional perspective explicitly states an assumption underlying a large part of the existing research, and offers a new paradigm for cumulative knowledge in the field of political violence and terrorism.

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