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**There and Back Again:
The Study of Mental Disorder and Terrorist Involvement**

Abstract

For the past forty years, researchers studied the relationship between mental disorder and terrorist involvement. The literature developed in four paradigms, each of which differs in terms of their empirical evidence, the specific mental disorders studied, and their conceptualizations of terrorist involvement. These paradigms have not, however, witnessed linear and incremental improvements upon one another. Although one paradigm has generally tended to dominate a temporal period, many false assumptions and incorrect interpretations of earlier work permeate into today's discourse. This paper provides a history of the study of mental disorders and the terrorist. First, we briefly outline the core fundamental principles of the first two paradigms, The paper then outlines the core arguments produced by the seminal reviews conducted in paradigm three. We highlight how these findings were consistently misinterpreted in subsequent citations. We then highlight recent innovations in the study of terrorism and mental disorder since the various influential literature reviews of 1997-2005. We conclude by outlining how future research in this area may improve in the coming years by broadening our understanding of both terrorist involvement and psychopathology away from simple dichotomous thinking.

Keywords: terrorism, terrorist involvement, mental disorders

Introduction

The study of mental disorders' relationship with terrorist engagement spans over forty years. It experienced four paradigms of conceptual and empirical development. During this time, the explanatory emphasis of mental illness lurched from the center of psychological enquiry to the periphery. For example, many early studies posited specific mental disorders as causal (Cooper, 1978; Pearce, 1977). Decades later, many studies not only rejected earlier causal assumptions but also downplayed the presence of mental disorders amongst terrorists in the first place (Abrahms, 2011; Post 2005, 2007; Sher & Rice, 2015). Small seeds of work recently found a middle ground where mental disorders are just one factor amongst many but not for all terrorists everywhere.

These four paradigms differed from one another in terms of their empirical evidence, the specific mental disorders studied, and their conceptualizations of terrorist involvement. It would be incorrect, however, to characterize these four paradigms of development as linear and incremental improvements upon one another. Instead, many false assumptions and incorrect interpretations of earlier work permeate into today's discourse. In other cases, the incorrect assumptions of earlier paradigms of work still linger. Although one paradigm has generally tended to dominate a temporal period, overlaps are common. Lacking in empirical evidence, the first paradigm offered psychopathy as a *cause* of terrorist involvement. It focused upon individual drives and characterized terrorist involvement as a yes/no dichotomy (e.g. a subject was either a terrorist or not). The second paradigm instead turned the psychopathological focus away from psychopathy toward specific personality types.

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The third paradigm synthesized the existing evidence base and rightly questioned the causative nature and prevalence of psychopathy and specific personality types. Simple misinterpretations of these reviews led to some commonly held false generalizations within the literature. These misinterpretations subsequently built a false dichotomy around mental disorders and terrorist involvement. The fourth paradigm, spurred on by analogous innovations within the study of the terrorist, is starting to find a middle ground between the hardcore line adopted by paradigms one and two and the mistaken assumptions that followed seminal reviews of paradigm 3. This latest paradigm is characterized by its empiricism, and understanding that terrorist involvement is a complex process (e.g. terrorist involvement is usually the outcome of a pathway involvement multiple push/pull factors and that the meaning of terrorist involvement may differ across roles within the group; Horgan, 2005; Gill 2012).

This paper provides a history of the study of mental disorders and the terrorist. First, we briefly outline the core fundamental principles of paradigms one and two. These are covered in far greater detail elsewhere, so this paper will only provide the basic assumptions and briefly assess the social scientific rigor of these studies. The paper then outlines the core arguments produced by the seminal reviews conducted in paradigm three. Most importantly, it shows how subsequent citations often misinterpreted these findings. We then highlight recent innovations in the study of terrorism and mental disorder since the various influential reviews of 1997-2005. We conclude by outlining that the future of research on terrorist psychology lies in moving away from overly

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reductionist approaches that dichotomize the two extremes of terrorist involvement (e.g. terrorist vs. non-terrorist) and/or mental disorder (e.g. psychopath vs. non-psychopath) and instead embrace approaches that view both as continuums.

Paradigm 1 – Psychopathy as Key

Many early published analyses on the terrorist placed psychopathy as the core explanatory variable. This speculative opinion was derived mainly from popular culture, and the desire to attribute mental disorders to those committing such heinous, violent acts (Victoroff, 2005). It remained decades before factors such as group processes and the wider social environment received attention. To this end, researchers postulated deviant characteristics of the terrorist. Pearce (1977) viewed them as sociopaths due to gaps in self-monitoring. He speculated engaging in an extremist cause provides an outlet for underlying mental health problems. Pearce based his conclusion on an analysis of the tattoos adorning one particular terrorist's body. Cooper (1978) argued that terrorists possess psychopathic or sociopathic personalities, and if it were not for engaging in political violence, they would find another outlet for their violent impulses. Some of these arguments held sway for a number of years (and well into what we consider Paradigm 2's golden years). For example, Tanay (1987) agrees with Cooper, arguing that terrorist acts are merely psychopathic tendencies hidden behind political rhetoric to provide the terrorist with an excuse to aggress. The lack of valid concepts and objective empirical research, alongside advancement of psychological research concerning psychopathy, and development of a widely accepted validated measure (Psychopathy Checklist; Hare, 1985) aided the gradual demise of the psychopath-as-terrorist theory. This permitted other psychological theories to come to the fore.

Paradigm 2 – Personality as Key

Psychoanalytical perspectives largely took over from studies focused upon psychopathy and the terrorist. Psychoanalysis reveals the relationship between conscious and unconscious thought and focuses upon psychological development from childhood. The findings from this paradigm are reasonably similar to the above assumptions of the terrorist being essentially abnormal. However, the abnormality is determined by unconscious motives and impulses spanning from childhood maltreatment, holding roots in Freud's Oedipus complex (Borum, 2004).

Many studies in this paradigm highlighted various aspects of personality, with narcissism the most common. Narcissists possess an over-inflated sense of self to the effect that they feel superior to others, possess volatile self-esteem, have interpersonal problems, and are prone to aggression in response to ego threats (Hogg & Vaughan, p.136). Narcissistic injuries, caused by early emotional injuries, lead to a damaged sense of self in adulthood. Incapable of overcoming these early emotional experiences, the individual directs his/her anger toward other targets held to be responsible. Again, these arguments held sway across paradigms. Twelve years apart, both Lasch (1979) and Pearlstein (1991) asserted that narcissism is key to understanding the terrorist personality. For Pearlstein (1991), terrorists utilize their "narcissistic rage" in undertaking their duties. He goes as far to claim that narcissism provides the most complete and "intellectually satisfying theory regarding the personal logic of political terrorism".

One of the earliest empirical studies into the terrorist personality was carried out on German extremist movements in the 1970s. The *Analysen zum Terrorismus* included comprehensive interviews and analyses of 250 terrorist careers (Jäger, Schmidtchen, &

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Süllwold, 1981). The results demonstrated 25% of actors had lost one or both parents in early life and 33% reported severe conflict with their parents (Post, 1984). Subsequent research speculated further, highlighting issues like parental abuse (Kent & Nicholls, 1977), deviance within the family system (Bollinger, 1985), the inability to identify with a father figure (Billig, 1985), and the experience of tyrannical fathers (De Cataldo Neuberger & Valentini, 1996). Despite the popularity of the notion that terrorists were often reticent, psychologically damaged youths, the theory lacked empirical strength. Morf's (1970) clinical examinations of Front for the Liberation of Quebec prisoners, highlighted failings inherent in this research strand: No statistical data, no standardized psychological instruments, and no control group (Victoroff, 2005).

Paradigm 3 – Synthesizing the Evidence

At the end of the 1990's and the early years of the new Millennium, a series of scholarly outputs synthesized the existing evidence surrounding psychopathological or personality-driven explanations of terrorist involvement (Borum, 2004; Horgan, 2003, 2005; Victoroff, 2005; Silke, 1998, 2003). These reviews largely agreed with one another. Collectively, they questioned the “empirical, theoretical and conceptual foundations” of earlier studies (Horgan, 2003, p.23).

On theoretical grounds, they argued investigations centering on psychopathy and/or personality disorders clearly suffer from the fundamental attribution error (Hogg & Vaughan, 2005). This error is a basic human tendency to use dispositions as an explanatory variable for behavior while underestimating the powerful impact of the situational context within which the individual behaves. This type of research focuses too

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much on the actions of the terrorist rather than the processes through which the individual became a terrorist. The reviews are not saying there are no terrorists who are psychopaths or narcissists but rather it is too simple (and unsupported) to suggest these factors caused the initial engagement with terrorism alone.

On empirical grounds, the reviews consistently found little support for the argument that psychopathy drives terrorist behavior. For Horgan (2003, p.6), “there remains little to support the argument that terrorists can or should be necessarily regarded as psychopathic owing to the nature of the offences committed”. Similarly, the reviews questioned the empirical foundations of the personality strand of research. Horgan (2003, p.10) highlights that “attempts to assert the presence of a terrorist personality, or profile, are pitiful”. Silke (2003, p.32) similarly outlines, “quite simply, the best of the empirical work does not suggest, and never has suggested, that terrorists possess a distinct personality or that their psychology is somehow deviant from that of ‘normal’ people”. Victoroff (2005, p.12) notes that “the conclusion, at least on the basis of uncontrolled empirical psychological studies...has been that terrorists do not usually exhibit what we refer to as Axis I or even Axis II psychiatric disorders”. Victoroff (2005, p.3) further characterizes the research in paradigms one and two as “theoretical speculation based on subjective interpretation of anecdotal observations”. It is important to carefully re-read these conclusions. Psychopathy and personality disorders were found to be unsupported empirically. Later, we show that many citations of these studies largely misinterpreted these conclusions and instead generalized to psychopathology in general.

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Despite a commonly held belief in subsequent studies, these reviews were not arguing people with pathological disorders do not join terrorist groups. For example, Horgan (2003, p.7) outlines that “perhaps, if the opportunity ever arose to examine actual terrorists in clinical settings, there might be some evidence to link at least a few of the ‘sore thumbs’ with pathological disorders”. Instead, they argue that the prevalence rates of various mental disorders are no different to those found in general society. Horgan (2003, p.17) cites McCauley (1991, p.132) as being “precise” in his assertion that “[this] is not to say that there is no pathology among terrorists, but the rate of diagnosable pathology, at least, does not differ significantly from control groups of the same age and background”. Silke (2003, p.32) agrees by asserting he “is not saying that mentally unbalanced or pathological personalities are *never* present in terrorist organizations”. Victoroff (2005, p.14) outlines that “sociopaths may sometimes be among the terrorists”. On a related note, the reviews largely agree that when psychopathic members are present they are either likely to take up specific roles within the movement (Victoroff, 2005), or be on the fringes (Silke, 2003).

The reviews regularly cite studies that affirm the lack of difference between terrorist and control groups in terms of disorder prevalence. Horgan (2003, p.18) notes a “persistence of evidence to suggest terrorist normality”. Silke also utilizes the word ‘normal’ on a couple of occasions. For example, “most serious researchers in the field at least nominally agree with the position that terrorists are essentially *normal* individuals” (1998, p.53). By ‘normal’, these reviews meant terrorists were no more or less likely to experience particular mental disorders than the average person on the street. They did not

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mean terrorists never suffer from mental disorders, yet that is frequently the way subsequent citations understood these particular sentences (we return to this in the next section). Indeed, a couple of the reviews even cite the Lyons and Harbinson (1986) study of Northern Irish terrorists where 16% suffered from a form of mental illness.

These reviews became very influential within the literature that followed, amassing over 1800 citations at the time of writing. They also coincided in time with a large uptake in the number of published terrorist-related articles (Silke, 2015). However, many of these citations misunderstood the finer points. Whereas the reviews often used very specific language, the citations generalized to a higher level of abstraction and overlooked many of the nuances. In turn, this led to the false assumption that there was no relationship whatsoever between mental disorders and terrorist involvement. This had major implications for both government practice and media portrayal of terrorist and mass casualty events. The point of the reviews was not to firmly put an end to studies of mental disorder and terrorist involvement. Rather, they intended to highlight the problems with existing studies and to argue for less simplistic linear assumptions between experiencing particular mental disorders and terrorist engagement.

Many citations of these reviews made four common errors. These errors relate to (a) how mental disorders were characterized (b) the conflation between the mental illness and irrationality (c) how the terrorist is characterized and (d) the dismissal of mental disorder presence.

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Let's start with how citations incorrectly conceived mental disorders. The early studies of paradigms one and two looked at very specific mental and personality disorders. The seminal reviews, each conducted by a psychologist, are equally very careful around the language they use. For example, Horgan's (2003) study debunks the empiricism behind the claim of a relationship between psychopathy and terrorist involvement. The chapter is not about mental illness in general. It is largely about psychopathy. 'Psychopathy' is mentioned 11 times, 'mental illness' just twice. Psychopathy is a very precise diagnosis of mental illness, with specific impairments of self and interpersonal functioning, and pathological personality traits including antagonism and disinhibition not found across other disorders. Victoroff's (2005) synthesis is equally careful. He explicitly refers to Axis I and Axis II disorders and insanity criteria.

However, the citations were not so specific. A lot of the nuance of paradigms one to three was lost in the citations the seminal reviews acquired. In many cases, they erred toward generalizations like 'mental illness' rather than the specific disorders analyzed in the reviews. In other cases, researchers (mainly non-psychologists) referred to 'psychopathology' (the scientific study of mental disorder) as if it meant something else entirely (e.g. psychopathy). On other occasions, they clearly linked the presence of mental disorder with irrationality. In using such sweeping generalizations, these citations clearly misunderstood the earlier reviews. Instead, these citations were blind to the fact that clinical diagnoses of mental health problems span a wide range, from common mental health disorders such as depression to severe pathology such as schizophrenia as well as disorders of personality and neurodevelopment. Table 1 highlights a small

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selection of these misconceptions. Each sentence in table 1 cites at least one of the seminal reviews to back up their position (emphasis is added to each sentence).

[INSERT TABLE 1 AROUND HERE]

This lack of specificity largely led to the second widely held misconception; the conflation of mental disorder with irrationality. The seminal reviews largely made the case that psychopaths are likely weeded out in the selection process for a number of reasons. Many citations then make the uninformed leap to assume that this is applicable to all mental disorders. For example, Zartman (2007, p.246) assessed terrorists as “not mad but highly rational and strategic calculators”. Wilson et al. (2010, p.691) stated, “terrorists are not characterized by mental disorder... [and instead are]...like many other criminals...rational decision makers”. More recently, a textbook on forensic psychology includes the claim that “there is little research to show that terrorists are mentally disturbed, which makes sense, as such an individual would be a liability to the cause” (Taylor, 2015). Post (2009, p.14) cites both Horgan (2005) and Silke (2003) in making the claim that “terrorist groups attempt to screen out *emotionally disturbed recruits*” (emphasis added). McDonald (2013, p.38), citing Silke, outlines that “people with psychological disorders do not make good terrorists. They lack the discipline, rationality, self-control and mental stamina needed if terrorists are to survive any length of time”.

Some of this stems from stigmatizing views of mental illness. “It has often been assumed that mentally ill assailants... have motives so irrational that they cannot be understood or have no motives other than their illness” (Fein & Vossekuil, 1999, p. p.328). The existing

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evidence suggests otherwise. Gill, Horgan, and Deckert (2014) highlight that lone-actors diagnosed with mental illness frequently display rational motives and engage in rational and purposive pre-attack behaviors. Borum (2013) notes numerous mentally ill lone-actors who were capable of sophisticated attack planning. Fein and Vossekuil (1999) also found evidence of mentally ill individuals planning, and executing attack related behaviors, as effectively as non-mentally ill actors. Corner and Gill (2015) empirically compared a sample of mentally disordered lone-actor terrorists with a sample of non-mentally disordered lone-actor terrorists. They found that those who were mentally disordered were just as (and in some cases more) likely to engage in a range of rational pre-attack behaviors as those who were not. Mentally disordered offenders were more likely to express violent desires, seek legitimization for their intended actions, stockpile weapons, train, carry out a successful attack, kill and injure, discriminate in their targeting, and claim responsibility. Most of these traits are typically viewed as rational behaviors and essential for success.

The third misconception is that the citations treat terrorism, and more importantly what it means to be a terrorist, in an aggregated, often generic fashion. They fail to acknowledge that being a bomb-maker may be different than being a bomb-planter; that being a foreign fighter may differ from being a terrorist attacking the homeland; that being a terrorist financier may be different than being a gunman; and that being a lone-actor may be different than being a group-actor. Their roles, functions, expectations, and experiences may differ in terms of recruitment, (self-) selection, routine activities whilst 'being' a terrorist and ultimately disengagement. This is a surprisingly almost universally adopted

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position for two reasons. First, it is actually a sign of the field's conceptual regression. Earlier paradigms often hypothesized psychological differences between leaders and followers for example (Strenz, 1981, 1988; Post, 1987). Somewhere in the subsequent spike in terrorist related publications, nuance became lost with the exception of a few studies. Second, one of the highly influential literature reviews made the call for such disaggregated approaches. Victoroff (2005, p.5) argued that "terrorist groups typically exhibit hierarchical organization, with various *roles*...[that]...may attract individuals with different predispositions who perhaps play their roles because of profoundly different psychological factors" and that "any empirical study claiming to characterize 'the psychology of terrorists' might be very misleading if it fails to stratify its findings according to level and role".

Finally, many citations assume that because of the flaws inherent in the early studies, there is no mental disorder prevalence whatsoever and that it can not be linked to why (alongside many other factors) some individuals in some groups engage in terrorism. What the reviews show is the lack of scientific rigor behind these studies. They generally do not point toward scientific evidence to the contrary. The studies that are regularly cited as confirming the absence of mental disorders are potentially not as scientific or rigorously examined to the same degree as those confirming a relationship. Merari (2010, p.253-254) eloquently sums up this misconception:

By and large, the opinion that terrorists do not have a common psychological profile rests on the absence of research rather than on direct findings. A scientifically sound conclusion that terrorists have no common personality traits must be based on many comparative studies of terrorists from different countries and functions, using standard psychological tests and clinical interviews. As

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such studies have not been published, the only scientifically sound conclusion for now is that *we do not know* whether terrorists share common traits, but we cannot be sure that such traits do not exist.

Paradigm 4 – Pathways, Disaggregation & Continuums

Although still in its infancy, the field of study has undoubtedly improved in terms of its theoretical, conceptual and empirical rigor since the publication of the seminal literature reviews. Horgan (2014) notes an increase in “solid, quality research output” aided by a growth in full-time dedicated researchers and, relatedly, research funding from a variety of government sources. Many of these improvements led to some changes in thought surrounding mental disorder and terrorism. Conceptually, the best pieces of research no longer seek silver bullet mono-causal explanations but instead embrace the complexity of what terrorist involvement means. Empirically, the prevalence of mental disorders has been highlighted on a number of occasions. Sub-group comparisons also demonstrated that some terrorist types more likely suffered mental disorders than others. The following sub-sections outline some of these innovations and what it means for the study of psychopathology and terrorism.

“From Profiles to Pathways”

Horgan (2008) outlines what a psychological contribution toward the understanding the terrorist involves. He champions a pathway process involving three phases: becoming involved, being involved, and disengaging. Whereas the vast majority of research had focused upon the first phase, such theorizing opened the field of study to largely overlooked areas. Whereas the approaches outlined in paradigms one and two above

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focus on ‘why’ individuals become members of militant groups, pathway approaches mostly focus on ‘how’ individuals become members. Shaw (1986) published the very first such ‘pathway model’ these authors are aware of. It comprised four elements and the dominant explanation of the day (narcissism) heavily influenced it. The four elements comprised socialization processes, narcissistic injuries, escalatory events and personal connections with militant group members. Whilst pathway models are now quite common, the potential role of mental disorder or personality types often goes unmentioned thus mirroring the dominant social-psychological explanations of today. However, mental disorders or personality factors might possibly be subsumed as a subset of behavior like contextual factors such as early experiences, cognitive-social factors like risk taking and reduced social contact (Taylor and Horgan, 2006), radicalizing through personal victimization (McCauley and Moskalenko, 2011) or displacement of aggression (Moghaddam, 2005).

The pathway approach broadens the horizons of research regarding mental disorder and terrorist involvement. A couple of the highly influential reviews mentioned earlier highlight this fact but follow-up studies were slow to emerge. For example, Horgan (2003, p.6) outlines that the regularly stressful experience of ‘being’ a terrorist may lead to psychological suffering. This echoed Ferracuti’s (1982) earlier claims. Weatherston and Moran (2003, p.702) also argue that signs of mental disorder in terrorists may be due to involvement in terror activity and its associated risks:

“If the presence of mental disorders is detected in a terrorist, it cannot be concluded that the mental disorder was the cause of terrorist activity. In addition, those terrorists who have been subject to detailed psychiatric assessment have

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been examined under conditions of incarceration, and therefore the circumstances of their arrest and detention in producing mental disorder need to be considered.”

So in other words, rather than being a cause of involvement, psychological problems may be a by-product of involvement. Weatherston and Moran go on to describe how lifestyle and group conflict are fundamental variables that may contribute to mental disorder emergence in terrorists. Exposure to such conditions is not necessarily conducive to developing mental disorder in every case, but these factors do have the potential to contribute to mental disorder in particular individuals. This is a potentially ripe avenue for future research in the psychology of terrorism.

The terrorist lifestyle obviously involves exposure to violent and traumatic situations. Studies of analogous behaviors like engaging in war or participating within a gang highlight that such violent and traumatic situations may lead to psychological problems. For example, conflict experience has induced post-traumatic stress disorder (PTSD) in individuals (Jordan et al., 1991). This disorder is recognized as manifesting in those considered to have no history of mental disorder (Weatherston & Moran, 2003). Burton, Foy, Bwanausi, Johnson, and Moore (1994) examined subsequent impact on psychological functioning from gang violence amongst juveniles. 24% met clinical criteria for diagnosis of PTSD following exposure to various aspects of gang related lifestyle. Autobiographical evidence from former terrorist actors also describes how roles and experiences within an organization impact upon their psychological health (Adair, 2009; Collins, 1998; Moloney, 2010). The stressors, pressures, and conflict present

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within a terrorist organization can also play a part in inducing psychological complications.

Psychological stress may also help induce disengagement from a terrorist group. Reinares (2011) interviewed 35 former members of Euskadi Ta Askatasuna (ETA). Some members voluntarily left due to 'personal' reasons. Reinares does not elaborate in detail how 'personal reasons' are characterized other than mentioning a former female member who was motivated to leave the organization due to fatigue and "existential crisis" (p. 799). Altier, Leonard, Shortland, and Horgan (2015) do expand on 'personal reasons'. In their statistical analyses of terrorist autobiographies, they include burnout, psychological distress, fear, regret, coping, experience of being a victim, and physiological distress as various 'push factors' from terrorist groups. Bubolz and Simi (2015) interviewed 34 former white supremacists. 32% self-reported mental health problems either prior to or during their involvement in a hate group. 44% self-reported suicidal ideation. 58% suffered from alcohol and substance abuse.

Despite the lack of consensus concerning mental state affecting an individual's decision to disengage from an organization, successful deradicalization programs provide psychological aid to those leaving a group. Boucek (2008) describes the Saudi Arabian government program, which includes an expansive counseling course run by approximately 50 mental health professionals and researchers. Mullins (2010) describes Singapore's program, which includes Cognitive Behavioral Therapy, (Rabasa, Pettyjohn, Ghez, and Boucek, 2010) and the US program in Iraq that addresses psychological issues experienced during conflict. Rabasa et al. (2010) evaluate a number

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of programs across the Middle East, Southeast Asia, and Europe. They conclude the most effective programs offer varying types of counseling (psychological, social, familial).

This suggests practitioners should concern themselves with potential psychological issues occurring during participation in terrorism. This coupled with the lack of research concerning the psychological effects of being involved in an organization necessitates further investigation. In order to increase our understanding of desistance and deradicalization, the psychological impact of maintaining a terrorist lifestyle requires attention.

Another crucial by-product of pathway processes is the growth in maturity in terms of explaining behavior. Rather than seeking explanation mono-causally (e.g. psychopathy), there is an acknowledgement that radicalization and engagement in terrorism is likely a culmination of several risk factors crystalizing in time and place. Rather than focusing upon solely the ‘causes’ of terrorist engagement, it may lead us to try understand ‘the causes of the causes’. This is where understanding the role of mental disorder may become more useful in specific subsets of terrorist behavior. For example, Gill’s (2015) work on lone-actor terrorists highlights several cases where the individual experience of mental disorders acted as a background risk factor and combined with a number of more proximal stressors, pushed the individual towards radicalization. This is backed up in Corner and Gill’s (2015) inferential analysis that compared a sample of mentally disordered lone-actor terrorists with a sample of non-mentally disordered lone-actors. The former group was significantly more likely to experience a recent stressor prior to planning their terrorist attack. For the purpose of threat management and/or risk assessment, solely focusing upon a static indicator like presence of a mental disorder is

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therefore useless in the absence of also looking at how it interplays with dynamic indicators like recent stressors.

Expanding Psychopathological Approaches

Rather than solely focusing upon psychopathy or specific personality disorders (like in paradigms 1 and 2), some recent studies looked at the full range of Diagnostic Mental Disorders. This is a very important development. Specificity matters. For too long, the terrorist psychology literature (and interpretations of it) was held back by narrow, linear understandings that focused upon prediction and linear thinking. Disorders vary greatly yet many analyses regarding terrorism treated them equally. This false dichotomy of mentally ill versus terrorist led to a stagnant debate. The innovation is also important in terms of both early prevention and, if necessary, later risk assessment. By denying that mental health issues ever play a role, it casts aside a potential key partner in safeguarding people at risk of radicalization and those who need psychological support post-disengagement.

Four studies, in particular, are worth mentioning because of the data utilized, the span of psychopathology under study and the incorporation of some form of comparison or control group to get a sense of base rates. Weenink (2015) studied police files of 140 Dutch individuals who became foreign fighters. 6% had diagnosed disorders. These disorders included psychotic, narcissistic, AD/HD, ADD, schizophrenia, autism spectrum, and post-traumatic stress. Weenink outlines the prevalence of schizophrenia and psychosis within this sample is higher than the general population. A further 20% of

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cases displayed indications of mental health problems but were undiagnosed at any point in their life. In Corner, Gill, and Mason's (2015) sample of 153 lone-actor terrorists, 1.3% experienced Traumatic Brain Injury (TBI), 0.7% drug dependence, 8.5% schizophrenia, 0.7% schizoaffective disorder, 2.0% delusional disorder, 0.7% psychotic disorder, 7.2% depression, 3.9% bipolar disorder, 1.3% unspecified anxiety disorder, 0.7% dissociative disorder, 1.3% Obsessive Compulsive Disorder (OCD), 3.3% Post-Traumatic Stress Disorder (PTSD), 0.7% unspecified sleep disorder, 6.5% unspecified personality disorder, and 3.3% autism spectrum disorder. Three disorders exhibited a higher prevalence in the lone-actor sample than in the general population (schizophrenia, delusional disorder, autism spectrum disorders). Three disorders exhibited a lower prevalence in the lone-actor sample than in the general population (depression, sleep disorders, and learning disabilities). Both studies highlight the higher proportion of schizophrenia within their samples compared to the wider population. It is important to note however that neither sample is representative of the vast majority of terrorists. Whilst foreign fighters and lone-actors hold much of the media's attention right now, they are still in the vast minority compared to terrorists globally and across history.

Corner and Gill (2015) utilized a sample of 119 lone-actor terrorists and investigated whether certain behaviors were more likely to co-occur with certain diagnoses than others. Those diagnosed with schizophrenia and associated disorders were the only diagnostic group to be significantly associated with previous violent behavior and this supports past research in the general violence literature (Krakowski et al, 1986). Negative associations were also found between personality disorders and autism and having a

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spouse/partner involved in a terror movement, which may be indicative of not having a spouse due to the detrimental nature of these disorders. Because mental disorders often share symptoms, further research may also focus upon analyzing symptoms of mental illness rather than purely the diagnoses themselves (Douglas, Guy & Hart, 2009).

Finally, Gottschalk and Gottschalk (2004) administered a widely used psychometric test of personality and psychopathology (the MMPI-2) to 90 incarcerated Palestinian and Israeli terrorists and to control groups of Palestinians and Israeli Jews matched on demographic features. The terrorist sample scored higher on subscale measures psychopathic deviate, paranoid, depressive, schizophrenic, and hypomanic tendencies. Although these results are interesting, there may be some measurement issues to think about. First, we do not know whether these subscale measures are a result of previous terrorist engagement or the result of incarceration or whether they played any role in the decision to become a terrorist. Second, cross-cultural and national comparability of the construct validity of self-report tests like MMPI-2 is still highly debatable. Third, sample sizes remain quite low for broad based generalizations.

These four studies collectively show that the study of mental disorder and terrorist involvement is not necessarily 'fruitless'. They each involved some form of control and comparison group and demonstrated clear differences. None of them claim mental disorders as a predictor for terrorist involvement. Nor do they claim a linear relationship between specific personality traits or specific mental disorders and terrorist engagement. Rather, they treat these factors as just one amongst many that typically crystalize within

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the individual. Such studies are only at the beginning and it is still far too early for generalizations.

Disaggregating the Terrorist

The study of the terrorist has recently become more disaggregated also. Now we are more likely to see studies of specific sub-types of terrorist actor (e.g. lone-actor, suicide bomber, foreign fighter). As Monahan (2012) notes, terrorism studies used to diverge greatly from wider criminological studies who instead of “lumping” all forms of criminality into one outcome variable (e.g. the criminal) would typically “split” the outcome variable (e.g. the arsonist, the sexual offender). This has led to some interesting findings with relation to mental disorder prevalence within various terrorist sub-samples (as anticipated in Victoroff’s review of the literature in 2005).

Four studies compared the rates of mental disorders in lone actors to matched samples of group actors. Gruenewald et al. (2013) compared far-right group and lone offenders, finding the latter significantly more likely to experience them (40.4% vs. 7.6%). Hewitt’s (2003) sample of lone-actors from an array of ideological backgrounds found similar results (22% vs. 8.1%) although the prevalence rate was almost half the rate found in the Gruenewald et al. study. Corner and Gill (2015) compared 119 lone-actor terrorists with 428 group-based actors. Using odds-ratios they found lone-actor terrorists were 13.5 times more likely to have a history of mental illness than group-based actors. Corner, Gill and Mason (2015) examined these results further and found a negative correlation between the level of co-offending and the rate of mental disorder prevalence. Whereas

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their sample of lone-actor terrorists included over 40% with a history of mental disorders, the figure for solo-terrorists (e.g. those who carried out their attack alone but received support from a wider terrorist group) was around 20%, for dyads it was just over 5% and for group-based actors it was less than 3%.

Merari and colleagues carried out various psychological tests on a sample of suicide bombers and compared the results with various control groups (e.g. other terrorists and non-political criminals) (Merari, 2010; Merari, Diamant, et al., 2009; Merari, Figchel, et al., 2009). These studies employed a range of techniques including clinical interviews, personality tests, the Thematic Apperception Test, and the House-Tree-Person Drawing test. Compared to the control group, the suicide bomber group received significantly more diagnoses of Avoidant-Dependent Personality Disorder (60% vs. 17%), depressive symptoms (53% vs. 8%) and more readily displayed suicidal tendencies (40% vs. 0%). On the other hand, the control group was more likely to contain members with psychopathic tendencies (25% vs. 0%) and impulsive-unstable tendencies (67% vs. 27%). Suicide bomber organizers scored higher in ego-strength, impulsivity and emotional instability than would-be suicide bombers.

Again these studies highlight that once the multiplicity of terrorist roles is examined, fascinating research emerges. The rigor of the lone-actor studies and the consistency in their findings suggests that these results are highly reliable. The data utilized in the suicide bomber study is largely unparalleled. However, we still know very little about other specific roles. Is there anything that differentiates the bomb-planter from the bomb-maker for example? Are there selection effects at play whereby recruiters place certain

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people in certain roles or is it self-selection whereby would-be recruits push for particular positions? What role, if any, does personality play in these dynamics?

Conclusion

In the months and years that followed 9/11, the terrorism studies literature grew enormously. The clamor for quick answers often led to simple questions, simple frameworks and linear thinking. Rather than treating both terrorism and psychopathology for the complex and multifaceted issues that they are, many analyses reached for the most aggregate and static interpretations. Instead of understanding the complexities behind different diagnoses, the term ‘mentally ill’ and others like it were often adopted. Instead of understanding that terrorist groups are made up of a wide-range of behaviors, members and functions, analyses typically sought to understand the ‘terrorist’ as if they were all similar. It is unsurprising that when such straightforward thinking dominated, straightforward answers like ‘there is no relationship at all’ became a common mantra within the literature. This all occurred even in the presence of several rigorous syntheses of the evidence base that made very carefully crafted, well-argued and nuanced conclusions. Instead, the conclusions and recommendations of these reviews were swept aside or largely misinterpreted. A false dichotomy prevailed that an act of targeted public violence was either carried out by a terrorist or a mentally disordered individual.

Fortunately many studies recently moved away from such dichotomized thinking and this is where the future of the field lies. Consistently the results highlight differences in prevalence rates across specific disorders within terrorist samples against comparison and control groups and across aggregate disorder prevalence rates within terrorist sub-

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samples (e.g. lone versus group offenders). Interesting, albeit parallel work not specifically focused upon psychopathology also highlights the experiences of psychological problems over the life course of terrorist offending and later disengagement. The data sources are also varied from first-hand interviews, to the administering of psychometric testing, to court records and other open-source avenues. Simply, data unavailability is no longer an excuse for the terrorism studies field to use any longer. We need more research endeavors like those cited in the previous sections to provide a more vibrant field of research and debate instead of being a field that went from one extreme orthodoxy (e.g. they are all psychopaths) to another extreme orthodoxy (e.g. there is no relationship whatsoever). The incorporation of more psychologists into the research field would only develop this nuance greater particularly in investigations of motivation which remain shallow and unscientific compared to developments within the wider psychology literature.

There are other major gaps in our knowledge too that require filling. No research has applied concepts around protective factors, mental disorders, and terrorism. Protective factors may come in many forms and include individual factors (e.g. attitudes, academic achievement, social orientation, self-control, personality factors), peer factors (e.g. close relationships with non-criminal peers, pro-social norms within peer group, number of affective relationships), and family factors (e.g. highly connected to family, involvement in social activities). We also know very little about the temporal ordering of risk factors (of which the experience of a mental disorder may be one of dozens) across terrorists. Radicalization is a process and may vary from case to case yet there is a distinct lack of

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studies aiming to quantify what these processes look like. We do not know, for example, what antecedent behaviors and experiences are real risk-factors for terrorist engagement, and which ones are simply a cause of a cause (e.g. a factor that might heighten certain vulnerabilities which may in turn push that person further down the extremist path and make them more likely to experience other risk factors). Without sequencing the behaviors, we can not know for sure.

Given the misinterpretations of previous reviews of the literature, it is probably best to conclude with a clear (re-)statement of our position on a number of issues. It is not true that terrorists share a common psychological profile. The evidence suggests however that some types of terrorists may be more likely to possess certain psychological traits more than the general population. The evidence also suggests that some types of terrorists may also more likely possess certain psychological traits than other types of terrorists. The evidence also suggests that those terrorist sub-samples with high rates of mental health disorders still fall below 50%. No mental health disorder appears to be a predictor of terrorist involvement. Terrorism remains a very low base-rate activity. Instead, for some terrorists the experience of mental health disorders may be just one of many 'risk' factors that pushed and pulled that individual into terrorist engagement. The presence of mental disorders also may be a by-product of terrorist activity and/or later disengagement from a terrorist group. By considering multiple facets individual, social, and situational levels of analyses, terrorism research may be able to present valid, reliable evidence which aids in prevention and disruption of events carried out by terrorists with mental health problems. Terrorism is, and will remain, a contentious issue. Tempting as media headlines, citing

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'expert opinion' that the cause of terrorism is "mental illness", may be, only with valid empirical data, and (re)interpretation of the value of current and historical evidence will the academic field move forward.

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Table 1 – Misinterpretations of the Literature Reviews

Author	Quote (emphasis added)
Abrahms (2011)	“Psychological assessments of terrorists indicate that they are <i>cognitively normal</i> ”
Gupta (2012)	Terrorists “by an large, seem to be <i>free of diagnosable maladies of the mind</i> ”
Jones and Bhui (2008)	“We can be fairly certain that most of these individuals will not meet <i>international diagnostic criteria for mental or personality disorders</i> ”
Kruglanski and Fishman (2009)	“The majority of such research points to the <i>normality</i> of individuals involved in terrorist organizations”
Lakhani (2013)	There is little evidence to suggest that the vast majority of terrorists hold <i>any disturbed psychological symptoms</i> , or that there exists an identifiable ‘terrorist personality’
Lutz and Lutz (2013)	“Terrorists are <i>not normally crazy</i> or suffering from <i>mental problems</i> ”.
O’Gorman (2010)	“Every study that has seriously examined the psychological state of terrorists finds that they fall within the <i>bounds of normality</i> ”
Post (2005)	“The search for <i>psychopathological origins</i> is fruitless”
Post (2007)	“Horgan has emphasized that there are no <i>individual psychological traits</i> that distinguish terrorists from a general population”
Sher and Rice (2015)	“If the practices of certain terrorist organizations may be generalized to the practices of all, it appears that terrorist organizations reject recruits with <i>signs and symptoms of psychopathology</i> ”
Spaiij (2011)	“Scholars such as Post and Horgan argue that, overall, terrorists should not be regarded as suffering from <i>any identifiable psychopathology</i> ”