

Are Conceptual Frameworks of Radicalisation Leading to Involvement in Terrorism 'Observable'? An Exploratory Study

FULL REPORT
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About CREST

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1. THE PROBLEM OF OBSERVABILITY

This document reports the findings of a research project commissioned by the UK Home Office to investigate select aspects of the potential for a practical contribution to counterterrorism (CT) of some of the better-known conceptual frameworks of radicalisation leading to involvement in terrorism.

While our empirical understanding of the drivers of radicalisation leading to involvement in terrorism has improved significantly in the last decade, the development of several conceptual frameworks predates the emergence of ISIS and the resurgence of right-wing inspired extremism. Furthermore, these frameworks have often been inferred from observations relating to one kind of terrorist violence over others (e.g., religiously-inspired political violence). Lastly, most of them have achieved a limited degree of formalisation, inasmuch as their key concepts tend to be loosely defined and their status as 'models' – in the sense of a formal system of postulates – is not established. Therefore, an evaluation of their potential relevance with regards to CT practice is required.

The frameworks' relative lack of formalisation presents a specific challenge to practitioners who may wish to draw on them. While the frameworks' authors would quite likely not go so far as to claim that their work should serve as a step-by-step guide to risk analysis or intervention design, the perception is often that they should serve to clarify and structure practitioners' and strategists' grasp of the drivers of involvement in terrorism or extremism, and therefore, potentially, inform their decision-making in one way or another. Indeed, it is this tacit proposition which motivates the commission of successive reviews of conceptual developments and regular evidence syntheses by public agencies, the present piece-of-work included. Arguably, the understanding of terrorism involvement which underlies the PREVENT Strategy is an outcome of these consecutive endeavours, combined with two decades of observation and reports from the field.

However, while systematic reviews of conceptual frameworks, drivers and risk factors of terrorism involvement have proliferated, a more pragmatic issue has been somewhat under-examined. We may think of

it as *observability*, though a more technical term might be *operationalisation*.

If we expect practitioners and policymakers to draw on any given framework to inform their thinking – for example, while analysing the risk presented by an individual or choosing outcome indicators for an intervention – then that framework, which is an assemblage of conceptual constructs, should be observable in some way. If a framework states, for example, that 'frame alignment' is one of the necessary mechanisms of violent radicalisation, then for this framework to assist in risk analysis or indicator design, 'frame alignment' (or the lack thereof) should be observable objectively, given the data likely to be available to the analyst or the designer. If a framework states that several mechanisms must come together for radicalisation to result in terrorism involvement, then the analyst and the designer should be able to tell whether the proposed combination 'fits' available observations. Observability of abstract frameworks is one of the elements needed to bridge the gap between theory and praxis, between analysis and action, to the extent that we think that one should inform the other.

It is this issue of the observability of frameworks of radicalisation leading to terrorism involvement that the current project set out to investigate. As such, it is important to keep in mind that *the following piece of work says nothing about the validity of the causal explanations put forward by one framework or another*. It does not rest upon a systematic review of evidence for or against any of the frameworks discussed herein, nor is it in any way a test of their causal claims. Because a conceptual framework should prove more 'observable' than another – in the specific sense of 'observable' employed in remainder of this report – does not mean that it offers a more accurate explanation of the phenomenon. Conjointly, *the following piece of work makes no claim as to the value of including or excluding any given indicator or specific piece of information in the conduct of case-based risk assessment (such as, for example, structured professional judgement)*. Providing a basis for such claims would require quite a different methodology than that employed herein.

Throughout the following, we are only concerned with exploring whether:

1. Better-known analytical frameworks of radicalisation leading to terrorism involvement can be operationalised and their main concepts made observable through proxy indicators commonly available about individuals convicted for terrorism, who radicalised and offended in the UK;
2. Some analytical frameworks are more easily observable than others given this approach;
3. Some concepts, or categories of concepts, are more observable than others, independent of the analytical frameworks to which they belong.

Possible implications of our findings for theory-guided practice and policymaking in the counter-terrorism domain, as well as future avenues for research and development, are put forward in conclusion.

2. FRAMEWORK SELECTION

Despite concerns that terrorism studies would stagnate,¹ our empirical knowledge of the characteristics and drivers of radicalisation and terrorism involvement has improved by leaps and bounds, notably in the last decade.² Although there is still limited consensus as to the best way to define and measure key outcomes, datasets of offender characteristics and attack events have proliferated, generating lists of significant correlates³ to the point that we might soon have more indicators than actual terrorists⁴.

However, while the catalogue of documented 'risk factors' has grown and is progressively being trimmed and prioritised through the conduct of systematic reviews,⁵ an equivalent process of reduction and organisation hasn't yet occurred on the analytical side of the field. Although, to our knowledge, no formal survey has been conducted, one would be hard-pressed to point to an academic (or pragmatic) consensus around a single, dominant model or theory of radicalisation or terrorism involvement. The situation is not dissimilar to the disjointed state of theorisation which for decades has characterised the discipline of criminology and likely owes, in large part, to the same causes: notably, methodological challenges⁶ and acute disciplinary fragmentation.⁷

Not only is the kind of "multitheoretical, a-paradigmatic"⁸ landscape resulting from this fragmentation associated with slower scientific progress, compared to more unified fields,⁹ but it makes the task of selecting a set of 'leading' or 'mainstream' analytical frameworks something of a challenge. Inevitably, one might favour approaches familiar from their own disciplinary leanings: psychologists might be more sympathetic to socio-cognitive explanations; political scientists and economists might be more naturally drawn to accounts grounded in rational choice theory; criminologists might argue that terrorism is nothing but a kind of crime and think any number of criminological accounts the self-evident choice.

If we look to empirical validation to cut the tie, we find that theories which are systematically tested directly against the phenomenon of interest (here: radicalisation leading to involvement in terrorism) are few and far between. When testing does occur, replication is the very rare exception, rather than the rule. Furthermore, each analytical approach tends to be investigated independently, rather than through designs that test multiple predictions generated by different frameworks against each other.

In terms of empirical validation of causal accounts, socio-psychological models have the advantage, inasmuch as underlying mechanisms can be tested experimentally (or quasi-experimentally) upon more easily accessible populations,¹⁰ though experimental studies have also been conducted with extremists in the field.¹¹ While economic, rational choice accounts have also received empirical support,¹² this has most often involved analysing the characteristics of

1 Sageman, "The Stagnation in Terrorism Research."
 2 Schuurman, "Research on Terrorism, 2007–2016: A Review of Data, Methods, and Authorship."
 3 Gill, Horgan, and Deckert, "Bombing Alone: Tracing the Motivations and Antecedent Behaviors of Lone-Actor Terrorists,,"; Gill et al., "Indicators of Lone Actor Violent Events: The Problems of Low Base Rates and Long Observational Periods"; Lafree et al., "Correlates of Violent Political Extremism in the United States"; Corner, Bouhana, and Gill, "The Multifinality of Vulnerability Indicators in Lone-Actor Terrorism."
 4 Gill, "Toward a Scientific Approach to Identifying and Understanding Indicators of Radicalization and Terrorist Intent: Eight Key Problems."
 5 McGilloway, Ghosh, and Bhui, "A Systematic Review of Pathways to and Processes Associated with Radicalization and Extremism amongst Muslims in Western Societies"; Losel et al., "Protective Factors Against Extremism and Violent Radicalization: A Systematic Review of Research."
 6 Neumann and Kleinmann, "How Rigorous Is Radicalization Research?"
 7 Dooley, "Whither Criminology? The Search for a Paradigm Over the Last Half Century"; Bruinsma, "Proliferation of Crime Causation Theories in an Era of Fragmentation: Reflections on the Current State of Criminological Theory."

8 Dooley, "Undisciplined: Tracing Criminology's Growing Divergence From Sociology," 94.
 9 Balietti, Mäs, and Helbing, "On Disciplinary Fragmentation and Scientific Progress."
 10 Kruglanski et al., "The Psychology of Radicalization and Deradicalization: How Significance Quest Impacts Violent Extremism"; Shortland et al., "The Interaction of Extremist Propaganda and Anger as Predictors of Violent Responses"; Berns et al., "The Price of Your Soul: Neural Evidence for the Non-Utilitarian Representation of Sacred Values."
 11 Gómez et al., "The Devoted Actor's Will to Fight and the Spiritual Dimension of Human Conflict"; Atran and Sheikh, "Dangerous Terrorists as Devoted Actors."
 12 Freilich, Gruenewald, and Mandala, "Situational Crime Prevention and Terrorism : An Assessment of 10 Years of Research."

terrorist events more than the characteristics of the terrorist themselves, with some exceptions.¹³ The dominant variant of the social movement perspective was originally rooted in an ethnographic case study approach,¹⁴ while the evidence supporting network, pathway-based or phased models has often been *ad hoc* and case-based¹⁵, more rarely involving in-depth interviews with (former) extremists.¹⁶ More recently, 'theory-free', indicator-based, correlational designs¹⁷ have been used to provide support for multilevel models of radicalisation implicated in terrorism involvement.¹⁸

As stated at the outset, the purpose of this project was not to compare the value of different frameworks from an etiological perspective *per se*. That is not to say that the project's rationale isn't informed by the literature on risk assessment, which suggests that analytical frameworks can and should inform the practice¹⁹, and by the UK Prevent Strategy²⁰, which acknowledges that several analytical perspectives have contributed to its own framework, but it is not predicated on assimilating the models discussed herein to practical guides for case-based risk assessment. More modestly, this exploratory study prods an underlying assumption, inherent in the recommendation that analytical frameworks can and should be "harnessed" to "augment understanding gleaned from the evidence that does exist" and inform practice in a preventive or investigative context in particular²¹: namely, that their core concepts be operationalizable and observable through data likely to be available in that context.

Unlike, for example, theory-informed structure assessment conducted in a clinical or prison setting, where in-depth case histories might be accessible and psychometric tools may be administered directly,²² assessment conducted in an investigative context may be reliant on inference from fewer and relatively more superficial indicators, absent the individual(s) of concern.²³ A framework chiefly articulated around intrapsychic constructs, for instance, might be exploitable in a clinical setting, but potentially less so when interviewing and testing are not an option.

In the event that most frameworks are not observable in an objective and systematic way, we might expect that some analysts may, give up on looking to the academic corpus for structured guidance and, in the long run, come to rely on their own instinct and past experience²⁴, or, not so drastically, that they come to rely on a more idiosyncratic approach to operationalisation than might seem preferable.

The selection of frameworks for inclusion in this study was informed by two broad considerations.

First, we chose not to define the 'outcome measure' too narrowly, but rather – in an effort to remain consistent with a pragmatic pursuit – we considered for inclusion any framework which sought to explain radicalisation leading to involvement in terrorism broadly understood and ran our final selection by the research commissioners. Our priority here was to include frameworks policymakers and practitioners were likely to consider relevant (more on this below).

Second, we took to heart Anja Dalgaard-Nielsen's observation that each of the leading theoretical accounts in radicalisation studies (sociology and social movements; group and network dynamics; individual differences) seem to contribute part, if not all, of the explanation, and should be seen as complementary, rather than competing.²⁵ While her argument is etiological (i.e., different frameworks are concerned

13 Perry and Hasisi, "Rational Choice Rewards and the Jihadist Suicide Bomber."
 14 Wiktorowicz, *Radical Islam Rising: Muslim Extremism in the West*.
 15 Silber and Bhatt, *Radicalization in the West: The Homegrown Threat*; Sageman, *Understanding Terror Networks*; Borum, "Radicalization into Violent Extremism II: A Review of Conceptual Models and Empirical Research."
 16 Horgan, *The Psychology of Terrorism*.
 17 Slooman and Tillie, "Processes of Radicalisation: Why Some Amsterdam Muslim Become Radicals."
 18 Corner, Bouhana, and Gill, "The Multifinality of Vulnerability Indicators in Lone-Actor Terrorism"; Clemmow, Bouhana, and Gill, "Analyzing Person-Exposure Patterns in Lone-Actor Terrorism: Implications for Threat Assessment and Intelligence Gathering."
 19 Lloyd and Dean, "The Development of Structured Guidelines for Assessing Risk in Extremist Offenders."; Borum, "Assessing Risk for Terrorism Involvement."; Monahan, "The Individual Risk Assessment of Terrorism."
 20 HM Government, *Prevent Strategy*.
 21 Sarma, "Risk Assessment and the Prevention of Radicalization from Nonviolence Into Terrorism," 285.

22 Kruglanski, Belanger, and Gunaratna, *The Three Pillars of Radicalization: Needs, Narratives, and Networks*.
 23 Sarma, "Risk Assessment and the Prevention of Radicalization from Nonviolence Into Terrorism"; Gill et al., "What Do Closed Source Data Tell Us About Lone Actor Terrorist Behavior? A Research Note."
 24 Dresser, "'Trust Your Instincts – Act!' PREVENT Police Officers' Perspectives of Counter-Radicalisation Reporting Thresholds Perspectives of Counter-Radicalisation Reporting Thresholds."
 25 Dalgaard-Nielsen, "Violent Radicalization in Europe: What We Know and What We Do Not Know."

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with different categories of "causes" at different levels of analysis, which come together in the process of radicalisation), it led us to try and include frameworks representative of these different levels of analysis.

From our earliest discussions with the practitioners commissioning the research, we anticipated that no one framework would be fully observable in all cases, but rather that core concepts from a mix of frameworks would be present in most cases, although some categories of concepts might be more 'visible' or easier to capture than others. Guided by the Principal Investigator's antecedent work on the systemic drivers of extremism,²⁶ we expected that core concepts related to *exposure* (for example, factors which seek to explain how individuals find themselves in radicalising *settings* where they come into contact with terrorism-supportive norms and socialising practices) would be more observable than core concepts related to individual *susceptibility* to radicalising moral change. In other words, we expected that *where* and *how* concepts would be more easily captured than *who* and *why* concepts. This informed our decision to select frameworks that spanned, as much as possible, a focus on individual characteristics *and* a focus on contextual features.

As stated, we wanted the selection to include frameworks that UK counterterrorism practitioners and policymakers at different levels could be reasonably expected to have heard about. As we lacked the time to organise a practitioners' survey or conduct a systematic review, we took as a point of departure the work of Jensen and colleagues on the PIRUS dataset of homegrown radicalisation in the US.²⁷ Their study of radicalisation pathways involved a thorough review of leading research programmes, distilled into ten conceptual constructs aggregated from seventy unique causal mechanisms identified from the literature.

The constructs identified by Jensen and colleagues are: psychological rewards; material rewards; personal crisis; community crisis; recruitment; cognitive frame

alignment; psychological vulnerability; physical vulnerability; group norms, and; group biases.²⁸ This provided us with some conceptual anchor points to choose a group of six analytical frameworks that would reflect key concepts in the field – six being the maximum number of frameworks we anticipated we would have the time to capture, not including an additional model representing an informal counterterrorism framework that we would elicit from practitioners. As this was an exploratory study, we felt that more frameworks could be added later, if desired.

A configurative review of the literature on models of radicalisation leading to terrorism involvement led us to identify a set of frameworks which together offered good conceptual coverage when compared to the list of constructs generated by Jensen and colleagues, and which we submitted to the research commissioners for review and approval.

The selected frameworks are outlined briefly below.

2.1 THE 3NS FRAMEWORK

The 3Ns (Needs, Narratives, Networks) framework developed by Arie Kruglanski and colleagues²⁹ is an extension of a prominent psychological account known as Significance Quest Theory (SQT).³⁰ Of all the frameworks included in this study, it can claim the most extensive empirical evidence-base. It has already been put to use to inform deradicalization programmes, notably in prison settings, and has been proposed as an aid to identify populations at risk of involvement in violent extremism.³¹

SQT is a general theory of motivation, in the sense that it posits that all humans, including extremists, are motivated by the *need* for personal and social significance, in much the same way that rational choice theory posits that all humans, including extremists, are motivated by self-interest. Briefly put,

28 Jensen and Lafree, "Final Report: Empirical Assessment of Domestic Radicalization (EADR)," 50.

29 Kruglanski et al., "The Making of Violent Extremists"; Kruglanski, Belanger, and Gunaratna, *The Three Pillars of Radicalization: Needs, Narratives, and Networks*.

30 Dugas and Kruglanski, "The Quest for Significance Model of Radicalization: Implications for the Management of Terrorist Detainees"; Kruglanski et al., "The Psychology of Radicalization and Deradicalization: How Significance Quest Impacts Violent Extremism."

31 Kruglanski et al., "The Making of Violent Extremists"; Webber et al., "Deradicalizing Detained Terrorists."

26 Bouhana, "The Moral Ecology of Extremism: A Systemic Perspective."

27 Jensen and Lafree, "Final Report: Empirical Assessment of Domestic Radicalization (EADR)"; Jensen, Seate, and James, "Radicalization to Violence: A Pathway Approach to Studying Extremism, Terrorism and Political Violence"; Lafree et al., "Correlates of Violent Political Extremism in the United States"; Jasko, LaFree, and Kruglanski, "Quest for Significance and Violent Extremism: The Case of Domestic Radicalization."

any number of life events can induce a motivational imbalance; therefore, significance loss is a subjective threshold. Under certain circumstances and for certain individuals, the need to redress the imbalance caused by negative experiences or unfulfilled expectations becomes extreme and constraints on certain behaviours, including prohibitions against harm to self and others, are weakened. In the case of violent extremism, an individual's need to achieve personal significance is thought to supersede all other needs. In doing so, it creates a unique susceptibility to certain *narratives* that promise a path back to significance and to a process of selection into the *networks* that propagate these narratives.³² Violence is believed to be an especially attractive means of gaining significance.³³ More extremely motivated individuals have been associated with more lethal attacks than less committed individuals.³⁴

On the face of it, the 3N framework seems to belong, unequivocally, to the family of individual-level, socio-psychological models of extremism, given its roots in SQT. It would be fair to say that most of the empirical effort has been aimed at testing the "Needs" component of the model, with less formal attention paid to the other two components. That said, while the role of individual differences in susceptibility is acknowledged (i.e., individuals are expected to vary in terms of *persuadability* and *susceptibility to network effects*), it is not clear what "N" concept these should be subsumed under, even though these differences would seem important in terms of explaining why not all individuals who suffer significance loss and are exposed to extremist narratives are drawn into violent extremism.

Recent elaborations³⁵ suggest that the 3N framework has dealt with this issue by evolving into more of a social-ecological model, even though social conditions are still examined strictly in terms of their motivational impact. Taking the model as a whole, environmental drivers appear to do the heaviest 'lifting' in terms of explaining involvement in violent extremism. While many conditions can "activate the significance

quest", what "causes an individual to identify violent extremism as the route toward earning meaning in life" are "the specific options and opportunities which an individual faces in the wake of these meaning discrepancies", in such a way that "one is more likely to choose violent extremism if he or she encounters an ideological narrative portraying violence as a viable antidote to insignificance, and/or a social network that advances this narrative within their social milieu."³⁶ It is the strength of the attachment to the "Network", often facilitated by a pre-existing social connection (an ecological process of selection), which enables socialisation into the group's violence-supportive moral context, through a "Narrative". To be attractive, this narrative must present the individual with appealing ways to restore significance, but what makes it terrorism-supportive is its presentation of violence in the service of an ideology as "moral and acceptable".³⁷

In sum, the inclusion of a multilevel model like the 3N framework allows us to incorporate in our observability analysis several of the key constructs identified by Jensen and colleagues, notably, psychological rewards, group norms, personal crisis, and cognitive frame alignment.

2.2 THE FRICTION FRAMEWORK

This framework, which we named Friction in reference to the title of the book in which it is most extensively elaborated,³⁸ is a set of distinct radicalization mechanisms, some operating at the individual level, others operating at the group and whole-society level. The notion of two 'pyramids' is embedded in the model: a pyramid of *opinion* and a pyramid of *action*, which chart the progress of individuals to extremism on the distinct dimensions of cognition and behaviour. The upshot of this dichotomous analysis is that involvement in extremist violence can occur in the absence of a radical ideology.³⁹

For reasons of comparability with the other models, we only retained the individual-level mechanisms, assigning each as a core concept of the "Friction"

32 Kruglanski et al., "Cognitive Mechanisms in Violent Extremism."

33 Kruglanski, Gelfand, and Gunaratna, "Terrorism as Means to an End: How Political Violence Bestows Significance."

34 Webber et al., "Divergent Paths to Martyrdom and Significance Among Suicide Attackers."

35 Lobato et al., "The Role of Vulnerable Environments in Support for Homegrown Terrorism : Fieldwork Using the 3N Model."

36 Kruglanski et al., "The Making of Violent Extremists," 109.

37 Ibid.

38 McCauley and Moskalenko, Friction: How Radicalization Happens to Them and Us.

39 Mccauley and Moskalenko, "Understanding Political Radicalization: The Two-Pyramids Model."

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framework. As presented by the authors of *Friction*, there is no expectation that all concepts must be present for involvement in violent extremism to occur, though they may also occur in combination and some are said to be more likely to lead to involvement than others. This has implications for the observability of this 'framework', as it isn't one as such (it is not a model in the sense of the 3N model, for example). However, given its high-profile in the literature on political violence, we opted to include it.

The first concept is "Personal Grievance", whereby an individual is moved to engage in violent extremism out of revenge for (perceived) harm committed against self or loved ones. The authors observe that this type of grievance alone is unlikely to lead to involvement in political violence, unless it is subsumed under a political cause.⁴⁰ The second concept is "Political Grievance". In this instance, the individual comes to identify with an extremist group or cause. Lone actors are said to typify this category and the authors give the example of Ted Kaczynski.⁴¹ "Slippery Slope" captures instances whereby individuals first become involved with a radical group and gradually progress towards violence as their role evolves over time. This mechanism combines socialisation and a form of self-radicalisation.⁴² "Power of Love" is thought to capture a prominent 'path' to radicalisation and echoes the Network framework introduced next. In this case, individuals are recruited into a terrorist network through existing social connections, and attachment to other group members maintains their involvement over time.⁴³ We elected to split the next mechanism into two separate concepts of "Status-Seeking" and "Thrill-Seeking", as they each seem to draw onto distinct psychological constructs.⁴⁴ These concepts are fairly self-explanatory and are said to be mostly representative of the reasons young men searching for adventure and admiration get involved in violent extremism. Lastly, "Unfreezing" is to some extent similar to the concept of "Cognitive Opening" discussed later on, whereby a fundamental change in a person's life situation, such as the loss of significant social ties, 'frees them up'

40 McCauley and Moskalenko, "Mechanisms of Political Radicalization: Pathways toward Terrorism."

41 McCauley and Moskalenko.

42 McCauley and Moskalenko.

43 McCauley and Moskalenko.

44 Mccauley and Moskalenko, "Understanding Political Radicalization: The Two-Pyramids Model."

from prior moorings and opens them up to the lure of extremist group membership.⁴⁵

Taken together, the Friction concepts capture or overlap several of Jensen and colleagues' constructs, notably psychological rewards, personal crisis, community crisis, cognitive frame alignment and psychological vulnerability.

2.3 THE NETWORK FRAMEWORK

Marc Sageman's account is designated here as "Network", in a call-back to his two seminal books, *Understanding Terror Networks* and *Leaderless Jihad: Terror Networks in the Twenty-First Century*. This framework is grounded in case studies of known terrorists and emphasises the role of social networks in enabling involvement in violent extremism in general and radical Islamism tied to Al Qaeda in particular. It brings to the fore a more epidemiological perspective, stressing the role of close personal relationships as vectors of exposure and socialisation, while downplaying the contribution of active recruitment and individual psychology, a type of explanation colloquially known as "Bunch of Guys" theory.⁴⁶

The core concepts we retained for inclusion are the four "prongs" identified by Sageman as essential to the involvement process. While there is no expectation that they should occur sequentially, they are thought to operate in recurrent combinations.⁴⁷ "Moral Outrage" captures the notion that violent extremists are motivated by the perception of repeated injustices and offences perpetrated against their self-identified community, whether or not this involves personal experience.⁴⁸ "Framing" occurs when the aforementioned moral outrage is interpreted in light of a more or less articulated worldview that these perceived offences are committed as part of a pervasive, systemic war against their community.⁴⁹ "Resonance" brings this interpretation back into

45 McCauley and Moskalenko, *Friction: How Radicalization Happens to Them and Us*.

46 Cottee, "Jihadism as a Subcultural Response to Social Strain: Extending Marc Sageman's "Bunch of Guys" Thesis."

47 Sageman, "A Strategy for Fighting International Islamist Terrorists."

48 Sageman, *Leaderless Jihad: Terror Networks in the Twenty-First Century*.

49 Sageman.

the individual's personal sphere, echoing their lived experience of perceived unjust treatment.⁵⁰ Lastly, "Network Mobilisation" refers back to the role of networks and close connections in catalysing these feelings of injustice into terrorist involvement.⁵¹

This framework overlaps most with the core constructs of personal crisis, community crisis, cognitive frame alignment, group norms and group biases.

2.4 THE SOCIAL MOVEMENT FRAMEWORK

Social movement scholar Quintan Wiktorowicz's seminal case study of the UK branch of radical Islamist group al-Muhajiroun also resulted in a 'four-pronged' model of involvement in extremism, though implicit in its presentation is the phased nature of the process.⁵² The framework is rooted in framing theory, whereby the "intersubjective and communicative process of framing an issue [e.g., grievance], rather than the issue itself, is the key to understanding radicalisation".⁵³

In this model, an individual experiences a "Cognitive Opening" which brings them to doubt previously held certainties and to become receptive to new ideas and worldviews.⁵⁴ The specifics of the events which can lead to this opening will vary from individual to individual, but they are likely to be perceived as negative. They may also be induced by groups seeking to draw new recruits. "Religious Seeking" ensues from this cognitive crisis, whereby the receptive individual is now in search of a new belief system that might make sense of the opening experience. It is this seeking process which can lead to first contact with the extremist movement or group. "Frame Alignment" occurs when the individual is persuaded that the extremist system of belief fits their need (i.e., that it offers convincing and attainable solutions to their perceived problems). Once that is achieved, deeper "Socialisation" can take place, whereby the individual internalises the ideology, mores, and more generally

the identity of the movement, which they have now joined.⁵⁵

This framework covers several core constructs, notably psychological vulnerability, physical vulnerability, personal crisis, community crisis, psychological rewards, cognitive frame alignment and group norms.

2.5 THE TERRORIST MINDSET FRAMEWORK

Several linear, sequential models of radicalisation have been proposed over time, such as the NYPD⁵⁶ or Precht's four-stage model,⁵⁷ which tend to be more operationally driven than other academic efforts.⁵⁸ To stand for this type of frameworks, we included Randy Borum's Terrorist Mindset model,⁵⁹ which also represents a more dominantly psychological approach to the explanation of terrorism involvement.

In the first stage, a perceived "Grievance" becomes prominent in the life of the individual, stemming from undesirable life experiences, in such a way that the condition experienced is perceived as "not right".⁶⁰ Eventually, the condition is framed as "Injustice", inasmuch as it is perceived as unfairly befalling the person, while other individuals or groups are spared. "Attribution" of fault or responsibility ensues, which leads to the identification of a target, who are to blame for the injustice that befell the individual. Lastly, a process of psychological "Distancing" from the target or 'demonization' occurs, whereby the target or group are dehumanised, setting up the circumstances that enables aggression. So stated, the explanation is essentially motivational. Group or other social dynamics are not included as a core component (n.b. nor are they dismissed as one) and it is noted that ideology does not have to be an effective driver, but rather can be adopted *post hoc* by personally motivated individuals in search of a reason to act or a justification after the facts.⁶¹

50 Sageman.
51 Sageman.
52 Wiktorowicz, *Radical Islam Rising: Muslim Extremism in the West*.
53 Dalgaard-Nielsen, "Violent Radicalization in Europe: What We Know and What We Do Not Know," 802.
54 Wiktorowicz, *Radical Islam Rising: Muslim Extremism in the West*.

55 Wiktorowicz.
56 Silber and Bhatt, *Radicalization in the West: The Homegrown Threat*.
57 Precht, "Home Grown Terrorism and Islamist Radicalisation in Europe: From Conversion to Terrorism."
58 Borum, "The Etiology of Radicalization."
59 Borum, "Understanding the Terrorist Mindset."
60 Borum.
61 Borum.

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While this framework overlaps several of the individual-level causal constructs identified by Jensen and colleagues, it is primarily included to allow us to observe a supplementary concept which we have termed "Linearity". There is long-standing debate as to whether radicalisation leading to involvement in terrorism is a sequential process (the former *necessarily* preceding the latter). The inclusion of "Linearity" allows us to test for the observability (or lack thereof) of this specific feature.

2.6 THE RATIONAL FRAMEWORK

This framework is a composite of rational choice perspective-related mechanisms of terrorism involvement found in the literature, allowing us to capture cost/benefit types of concepts identified in the Jensen and colleagues study, which are not represented in the other models.

Under this framework, we included the concepts "Psychological Rewards" and "Material Rewards", which are thought to attract individuals to terrorism involvement, up to and including suicidal forms of terrorism⁶². We also included "Recruitment" as a core component, as recruiters have been described as instrumental in framing even seemingly irrational behaviour as 'rewarding' to the individual who may be going to his or her certain death.⁶³ Finally, we added the concept of "Group Competition," though it is not to be understood here as equivalent to the notion of 'outbidding', which describes competition between terrorist organisations for the support of a constituency.⁶⁴ To reflect the amorphous homegrown radicalisation UK landscape for the time-period under consideration, we tried to capture more broadly the idea of perceived differential treatment and competition for material or symbolic advantage between self-ascribed social groups.⁶⁵

62 Caplan, "Terrorism: The Relevance of the Rational Choice Model."

63 Perry and Hasisi, "Rational Choice Rewards and the Jihadist Suicide Bomber."

64 Bloom, "Palestinian Suicide Bombing: Public Support, Market Share, and Outbidding."

65 Bouhana, "The Moral Ecology of Extremism: A Systemic Perspective."

2.7 THE CT FRAMEWORK

In concertation with the research commissioners, we included a last framework which would amalgamate drivers of terrorism involvement frequently mentioned in the UK policy domain: the product of a pragmatic mix of practical experience and a synthesis of academic knowledge. We solicited a list of core components. After deliberation, a framework was produced, made up of seven core concepts of unequal weight.

"Individual Vulnerability" encompasses the personal, historical circumstances which could make an individual vulnerable to the actions of radical influencers, while "Radicalising Exposure" captures the individual's effective exposure to a terrorism-supportive ideology and "Cognitive Crisis" refers to those factors which might contribute to a lasting or transitory state of heightened receptiveness to the aforementioned ideology. The CT framework distinguishes itself from others by explicitly including "Protective Factors" as a core component: social commitments or ties that might, if present, counterbalance radicalising influence – and compound vulnerability if absent. Within this framework, therefore, risk is thought to arise from the convergence of the first three core concepts, in the absence of the fourth. A further three core components are thought to contribute to heightened risk: "Grievance", which is similar to grievance-related core concepts already described, "Identity Needs", such as the need for purpose and a sense of belonging, and "Participation Barriers", which prevent an individual from taking part in civic society.

Rather expectedly, several of these concepts are reflected in the UK CONTEST Strategy.

All seven frameworks and their respective core concepts are represented in Figure 1.

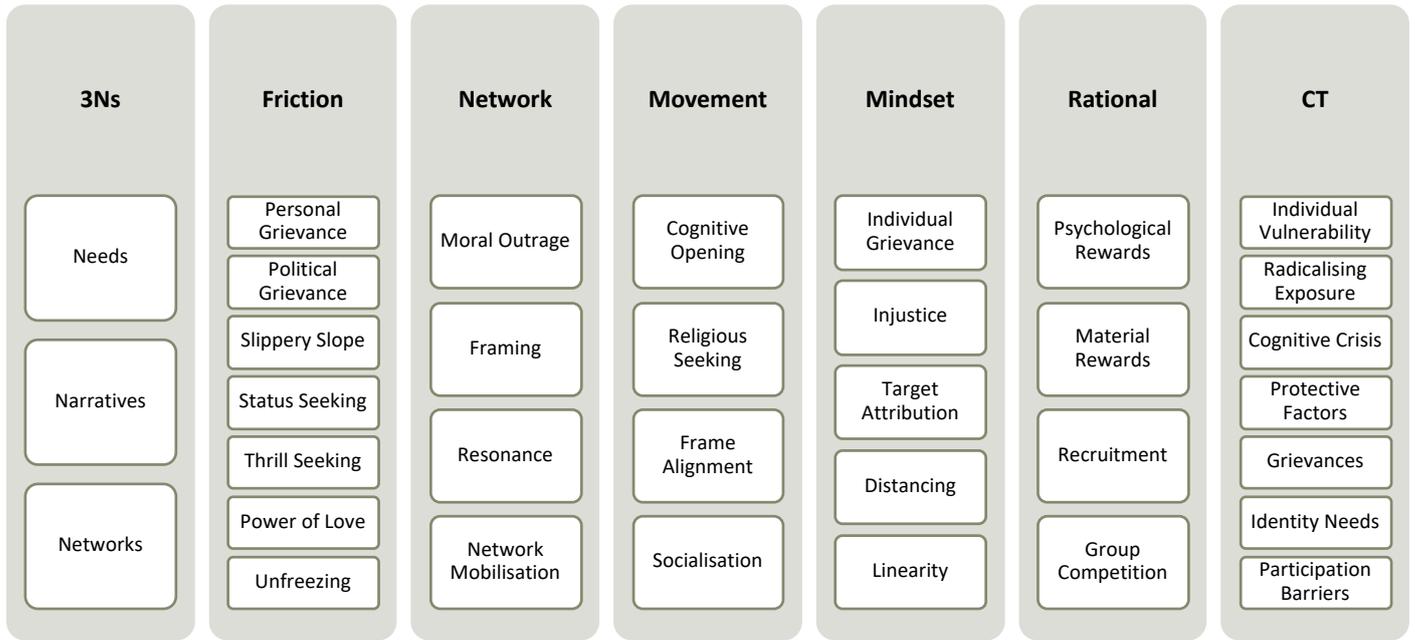


Figure 1. Conceptual frameworks and their core concepts

3. DATA AND ANALYTICAL APPROACH

Our approach was informed both by the exploratory nature of our research question and by the project's time constraints and pragmatic purpose. Both the researchers and the commissioners of the research agreed that it was important to adopt a protocol which could be easily replicated by field analysts, if desired.

The procedure we followed is summarised in Figure 2. In the first stage of the research, the principal investigator (PI) identified frameworks for inclusion and reduced them to a number of core concepts, as described in the previous section, then matched the concepts to a set of proxy indicators. In a second stage, we assembled a test set of cases and collected open-source information, which we used to code for the presence or absence of the proxy indicators in each case. In the third stage, we analysed that data to evaluate the 'observability' of our seven frameworks and their related core concepts.

We proceed to describe these stages in more detail below.

The data used in this study were partially drawn from an existing dataset held by the PI of 1,057 cases of homegrown radicalisation, which resulted in a conviction for, or death during, the commission of a terrorist offence in the US, the UK and the Republic of Ireland between 1995 and 2018, regardless of ideology. Cases were identified through open sources, such as news reports and publicly available datasets, and represent as close to a full population of such instances as the researchers could establish.

Cases were identified through the following sources: The Extremist Crime Data Base, the PIRUS database, the RAND Database of Worldwide Terrorism Incidents, the Terrorism and Extremist Violence in the United States Database, the Greenberg Case Book, Corner, Gill & Mason (2016)'s database of US and European Lone Actors, the Violent Dissident Republican Database (up to October 11th, 2017), and "Foreign Terrorist Attacks By The Islamic State, 2002-2016", "Islamist Terrorism: Analysis of Offences and Attacks in the UK (1998-2015)" and "Al-Qaeda in

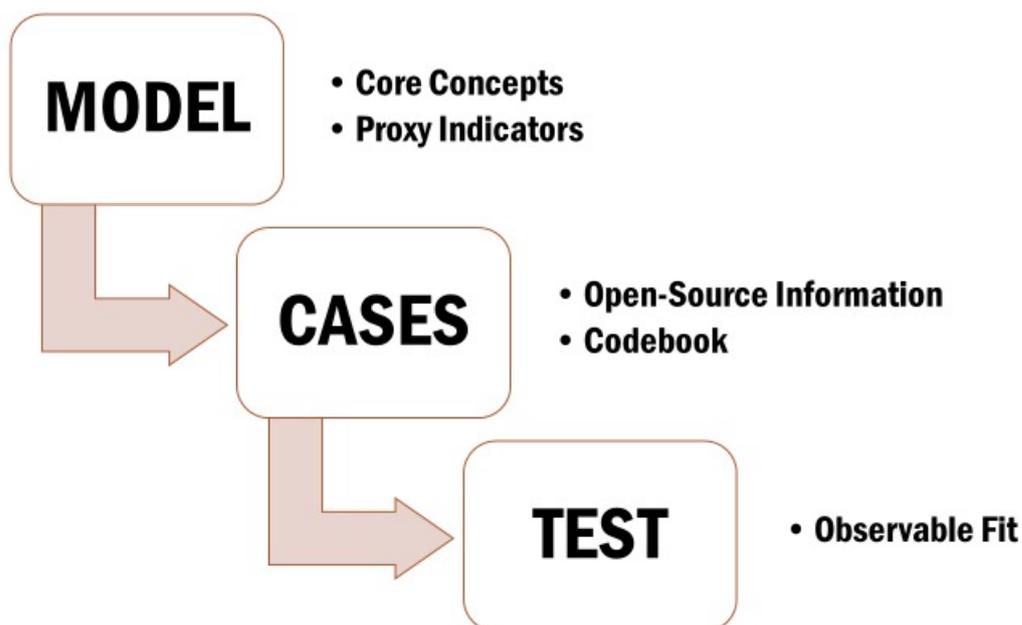


Figure 2. Logic of Study Design

the United States: A Complete Analysis of Terrorism Offences", published by The Henry Jackson Society.

As it formed part of an ongoing study on the social ecology of radicalisation (SER) funded by the Minerva Initiative of the US Department of Defense, the original dataset contained basic information about the offender, the index offence, and the place in which their radicalisation took place. To qualify for inclusion, it had to be established that radicalisation occurred in the same country as the index offence. For the purpose of the Minerva SER project, radicalisation is defined as the process through which an individual acquires the propensity to commit an act of terrorism.⁶⁶

For the present study, UK cases were extracted from the SER dataset, excluding cases associated with nationalist or separatist terrorism (i.e., linked to the conflict in Northern Ireland). The dataset was then updated with cases of homegrown radicalisation resulting in recent convictions in England and Wales, as reported by the Crown Prosecution Service. This yielded a final dataset of 137 cases of religious, right-wing or single-issue homegrown radicalisation resulting in a conviction for committing, planning or contributing to the commission of a terrorist attack in the UK between 1995 and the first quarter of 2020.

The frameworks selected for inclusion were then operationalised. Through a review of the relevant analytical literature, the PI identified a set of concepts or processes articulated by each framework as essential factors or mechanisms in the explanation of terrorism involvement, as described in the previous section. We then scoped empirical outputs concerned with the testing of each framework (in full or part) to glean subsets of possible measures for each concept. We cross-referenced this list with pre-validated codebooks successfully employed in past projects.⁶⁷

Congruent with the project's rationale, indicators which we had reason to believe would be observable through open-source information were prioritised for inclusion. When a concept could not be matched to a set of pre-

existing indicators, a list of possible observations which could be associated with the concept and developed new proxy indicators to capture them was generated, guided by the aforementioned catalogue of measures produced by the empirical literature review exercise.

Whenever feasible, more than one indicator was attributed to a concept to maximise opportunities for observation, while holding the coding effort reasonable.

⁶⁶ Wikström and Bouhana, "Analyzing Radicalization and Terrorism: A Situational Action Theory."

⁶⁷ Clemmow, Bouhana, and Gill, "Analyzing Person-Exposure Patterns in Lone-Actor Terrorism: Implications for Threat Assessment and Intelligence Gathering"; Schuurman et al., "Lone Actor Terrorist Attack Planning and Preparation: A Data-Driven Analysis"; Bouhana et al., "Background and Preparatory Behaviours of Right-Wing Extremist Lone Actors: A Comparative Study."

DATA AND ANALYTICAL APPROACH

Are Conceptual Frameworks of Radicalisation Leading to Involvement in Terrorism 'Observable'?

3Ns Framework	Friction Framework	Network Framework	Social Movement Framework	Terrorist Mindset Framework	Rational Choice Framework	Counter-Terrorism Framework
Need	Personal Grievance	Moral Outrage	Cognitive Opening	Grievance	Psychological Rewards	Individual Vulnerability
Unemployed Unemployed (Mother) Unemployed (Father) Separated, divorced or widowed Mental illness crisis Expelled from school Prison experience History of social isolation Goal interruption Degraded Lied to or broken promise Target of prejudice or unfairness Disrespected Harmed due to negligence Ignored by someone important Experienced carelessness from someone important Victim of verbal or physical assault Relationship problems Abusive home (not victim) Physical abuse victim Sexual abuse victim Victim of bullying	Unemployed Separated, divorced or widowed Expelled from school Degraded Target of prejudice or unfairness Lied to or broken promise Disrespected Ignored by someone important Harmed due to negligence Experienced carelessness from someone important Victim of verbal or physical assault Relationship problems Abusive home (not victim) Physical abuse victim Sexual abuse victim Victim of bullying	Perceived discrimination or perceived derogation of ethnic/national/religious group	Degraded Target of prejudice or unfairness Disrespected Ignored by someone important Lied to or broken promise Harmed due to negligence Victim of assault Relationship problems Recently unemployed Family death Recent school dropout	Unemployed Separated, divorced or widowed Expelled from school Goal interruption Degraded Target of prejudice or unfairness Lied to or broken promise Disrespected Ignored by someone important Harmed due to negligence Experienced carelessness from someone important Victim of verbal or physical assault Relationship problems Abusive home (not victim) Physical abuse victim Sexual abuse victim Victim of bullying	Promised increased status as a result of involvement/event Experienced increased status as a result of involvement/event	Not born in UK Expelled from school Prison experience Mental health crisis Arrested as juvenile Substance abuse Mental health issue short of diagnosis Mental health diagnosis Abusive home (not victim) Physical abuse Sexual abuse Victim of bullying Violent childhood victimisation (not domestic)

Narrative	Political Grievance	Framing	Religious Seeking	Injustice	Material Rewards	Radicalising Exposure
Consumed propaganda from wider movement Learned about terrorism-supportive ideology from online sources F2F interaction with members of wider network Online interaction with members of wider network	Perceived discrimination or perceived derogation of ethnic/national/religious group Perception of ingroup unfair/unjust treatment by authorities	Consumed unfair group treatment material (systemic) Perception of ingroup unfair/unjust treatment by authorities	Religious conversion prior to event Ideological change prior to event Ideological intensification prior to event Thrill or sensation-seeking prior to event	Angry in lead up to event Perception of ingroup unfair/unjust treatment by authorities	Promised materials rewards as a result of involvement/event Experienced material rewards as a result of involvement/event	F2F interaction with members of wider network Online interaction with members of wider network Learned ideology from virtual sources Effective group/network membership (beyond claim) Consumed propaganda from wider movement
Networks	Slippery Slope	Resonance	Frame Alignment	Target Attribution	Recruitment	Cognitive Crisis
Family/spouse/ friends co-offenders First encounter with ideology through friends/family Family or close associates involved in political extremism Spouse or partner involved in political extremism	Prison experience Arrested as juvenile History of childhood violence Involvement in high-risk political activism for group prior to event	Degraded Target of prejudice or unfairness Lied to or broken promise Disrespected Ignored by someone important Harmed due to negligence Experienced carelessness from someone important Victim of verbal or physical assault Consumed unfair group treatment material (hate crime)	Evidence of alignment with group ideology	Denounced co-ideologues before event Identify individuals/groups responsible for unfair/unjust treatment of individual/group	First encounter to ideology as a result of active recruitment by group/network	Recently unemployed Recent family death Recent school dropout

DATA AND ANALYTICAL APPROACH

Are Conceptual Frameworks of Radicalisation Leading to Involvement in Terrorism 'Observable'?

	Status Seeking	Network Mobilisation	Socialisation	Distancing	Group Competition	Protective Factors
	<p>Military experience In military at time of event Sought legitimisation from leader/figure Claimed responsibility publicly Promised increased status as a result of involvement/event Experienced increased status as a result of involvement/event</p>	<p>Family/spouse/ friends co-offenders First encounter with ideology through friends/family Family or close associates involved in political extremism Spouse or partner involved in political extremism</p>	<p>Received hands-on training F2F interaction with members of wider network Online interaction with members of wider network</p>	<p>Expressed desire to hurt others Expressed dehumanisation of target</p>	<p>Perception of ingroup unfair/unjust treatment by authorities Competition between ingroup and outgroup over material or symbolic resources</p>	<p>Married or partnered In military at time of event Evidence of self-control Strong non-radical ties</p>
	<p>Thrill Seeking</p>			<p>Linearity</p>		<p>Grievance</p>
	<p>Evidence of sensation/ thrill-seeking</p>			<p>Evidence of radicalisation preceding group involvement</p>		<p>Degraded Target of prejudice or unfairness Lied to/broken promise Disrespected Ignored by someone important Harmed due to negligence Experienced carelessness from someone important Victim of assault Relationship problems Perception of ingroup unfair/unjust treatment by authorities Perceived discrimination or perceived derogation of ethnic/national/religious group</p>

DATA AND ANALYTICAL APPROACH

Are Conceptual Frameworks of Radicalisation Leading to Involvement in Terrorism 'Observable'?

The final project codebook contained 160 unique variables, which included characteristics of the offender, their background, life experiences, radicalising exposure, motivation and offence behaviour, over and above the proxy indicators needed to operationalise the frameworks' concepts. It was anticipated that the additional information would not only be necessary to characterise our sample but would also enable follow-up research.

Table 1 sets out the correspondence devised by the PI between the frameworks, their key concepts and the relevant proxy indicators in our codebook. In creating this correspondence table, the approach previously adopted by Jensen and colleagues in their qualitative analysis of radicalisation pathways was reversed, disaggregating conceptual constructs extracted from frameworks of terrorism involvement into observable indicators, rather than aggregating discrete causal mechanisms of radicalisation extracted from the radicalisation literature into summative conceptual constructs.⁶⁸ The intersection between some indicators across some of the concepts reflects an understanding, informed by the literature review, of the junction between different frameworks' concepts (e.g., "Needs" and "Grievances") and is consistent with Jensen and colleagues' observation that there is "considerable overlap between the research programs when it comes to their core assumptions".⁶⁹

Returning to the dataset of 137 cases, the open-source data collection protocol developed by Gill and colleagues⁷⁰ and further elaborated by Corner, Bouhana and Gill⁷¹ was implemented. It takes into account the reliability of the source material (e.g., type of news outlet; court proceedings versus news report in the immediate aftermath of the event). Systematic searches through LexisNexis were conducted to identify news report, biographies and legal documents pertaining to each case. Following the codebook, the information was coded by one of the researchers. Ten percent of the cases were double-coded to identify possible sources of disagreement and improve the reliability of the

coding process under time constraints. All concept-related indicators were coded dichotomously (absent/present). If presence or absence of an indicator could not be established one way or the other from available sources, it was coded as missing.

As was our experience on other projects using the same protocol, the ability to code for the presence or absence of certain indicators varied wildly due to missing data. Information on some indicators was entirely absent, very much in keeping with the kind of missing data figures reported in similar studies, even those relying on a greater number of coders and longer collection periods.⁷² As well as wishing to capture some of the nuances of different core concepts and keeping in mind the sort of indicators which might be available to analysts, these studies were a motivation not to reduce core concepts to a single indicator, whenever it was possible.

While missing data is always a hindrance to research, in this instance we adopted the position that missing data could be, in itself, interpreted as a proxy indicator for the type of information more or less likely to be available to analysts – and therefore more or less likely to make any given framework or concept 'observable'. Although it is – of course – expected that more information would be available with access to closed, privileged sources, we might still expect that open-source information could serve as a proxy measure of the availability of certain categories of observations over others. Research on lone actor terrorists using closed sources has produced very similar figures when replicating open-source study methods, suggesting some equivalence regardless of source.⁷³

To capture the frameworks' 'observable fit', the PI took as a starting point an approach known as Conjunctive Analysis of Case Configurations (CACC). CACC is a data analysis technique developed by criminologists to investigate dominant composite profiles in sets of individuals or events.⁷⁴ While CACC builds upon qualitative techniques such as Qualitative Comparative Analysis (QCA) and can be used to test hypotheses

68 Jensen and Lafree, "Final Report: Empirical Assessment of Domestic Radicalization (EADR)." 47.

69 "Final Report: Empirical Assessment of Domestic Radicalization (EADR)," 47.

70 Gill, Horgan, and Deckert, "Bombing Alone: Tracing the Motivations and Antecedent Behaviors of Lone-Actor Terrorists."

71 Corner, Bouhana, and Gill, "The Multifinality of Vulnerability Indicators in Lone-Actor Terrorism."

72 Lafree et al., "Correlates of Violent Political Extremism in the United States"; Jasko, LaFree, and Kruglanski, "Quest for Significance and Violent Extremism: The Case of Domestic Radicalization."

73 Gill et al., "What Do Closed Source Data Tell Us About Lone Actor Terrorist Behavior? A Research Note."

74 Miethe, Hart, and Regoeczi, "The Conjunctive Analysis of Case Configurations: An Exploratory Method for Discrete Multivariate Analyses of Crime Data."

about the predictive or explanatory power of a number of interacting attributes relative to a particular outcome (e.g., a crime type, offender life-course trajectories, sentencing outcomes), it can also be used to search for patterns in data in an exploratory way.⁷⁵ In contrast to qualitative approaches like QCA, it is able to handle a relatively large number of cases, but a limited set of variable attributes. CACC has been applied in the terrorism domain, although it has most often been used to analyse offences, rather than the developmental processes of involvement.⁷⁶

In this project, the chosen approach differs from the traditional application of CACC in that one is not trying to determine what are the dominant profiles which predict an outcome variable; rather, one wishes to ascertain what dominant profiles characterise the empirical observation of a framework within a set of cases to establish the extent to which a framework 'fits' the observations. While it is advisable in CACC to discard low-frequency configurations from analysis, we do not do so here as they might be informative for our purposes (notably, if the profiles which include all the concepts of a framework are among the low-frequency configurations, meaning the framework taken as a whole 'fits' few observed cases).

The first step in the analysis was to produce a data matrix for each framework, known as a truth table, from the data file generated by the coding procedure. In lieu of the traditional predictor variables, each column was populated with a concept and each row with a case. For each case, we determined whether a concept was present or absent, whereby '0' denotes absence of the concept and '1' denotes presence of the concept. Congruent with the earlier remark about viewing missing data as part-and-parcel of the project, as opposed to merely a limitation, missing values were not carried over to the truth tables. In other words, if all values for the indicators associated with a concept were missing (as opposed to absent), the concept was coded as absent, rather than missing. However, to maximise the chances of 'observing' a concept or framework, we erred on the side of generosity: for a concept to be coded as present, it was enough for only one of the indicators associated with it to be present. Likewise, if information between similar indicators

seemed to conflict – one indicating presence, one indicating absence – the concept was coded as present. As each variable (concept) has only two possible observations (absent/present), it is straightforward to calculate for each framework how many configurations are theoretically observable. For example, a framework with 5 concepts has $2^5 = 32$ theoretically observable configurations.

While the procedure followed here is inspired by, but does not strictly follow the precepts of CACC, the recommendation that dominant case configurations should be evaluated inferentially, as well as descriptively was taken under advisement.⁷⁷ As a second step, we conducted 2-step cluster analyses for each framework, using the same set of dichotomous variables, to explore the extent to which all cases could be described by distinct clusters of concepts.

As a last and third step, we carried out a 2-step cluster analysis of all the frameworks' concepts taken together to explore the extent to which terrorism-involvement concepts characterised our observed cases, independent of the frameworks to which they belonged - inspired by Dalgaard-Nielsen's previously cited work and guided by the PI's own multilevel framework of the causes of extremism.

75 Hart, "Conjunctive Analysis of Case Configurations."

76 Gruenewald, Drawve, and Smith, "The Situated Contexts of American Terrorism: A Conjunctive Analysis of Case Configurations."

77 Hart, "Identifying Situational Clustering and Quantifying Its Magnitude in Dominant Case Configurations: New Methods for Conjunctive Analysis."

4. SAMPLE SNAPSHOT

As already stated, the sample was made up of cases which resulted in a conviction for a terrorist attack-related offence committed in the UK, or in the death of the offender during such an offence, between 1995 and 2020, where it could be established through open-source information that the offender radicalised in the UK. Figure 3 shows the distribution of the 137 cases of UK homegrown radicalisation over the time period under study. The sample is chronologically skewed, splitting just about evenly between the periods 1996-2012 (N=67) and 2013-2020 (N=70).

is evenly split between lone (49.6%) and group actors (50.4%). About a quarter of the cases involved an attack being carried (27.6%, N=34), while the majority involved preparatory or incitement-related offences.

Table 2 summarises some of the key descriptive characteristics of the UK homegrown terrorism dataset. Mean offender age at the time of conviction was 28 years old, ranging between 17 and 53 years old (SD=8, N=136). Most of the individuals involved were male (94.9%). As expected for the period under consideration, religiously inspired cases make up most of the sample (84.6%, N=115), with right-wing inspired (14%, N=19) and other ideologies (1.4%, N=2) making up the remainder. As such, meaningful comparative analyses based on ideological orientation could not be conducted. Also of note is that the sample

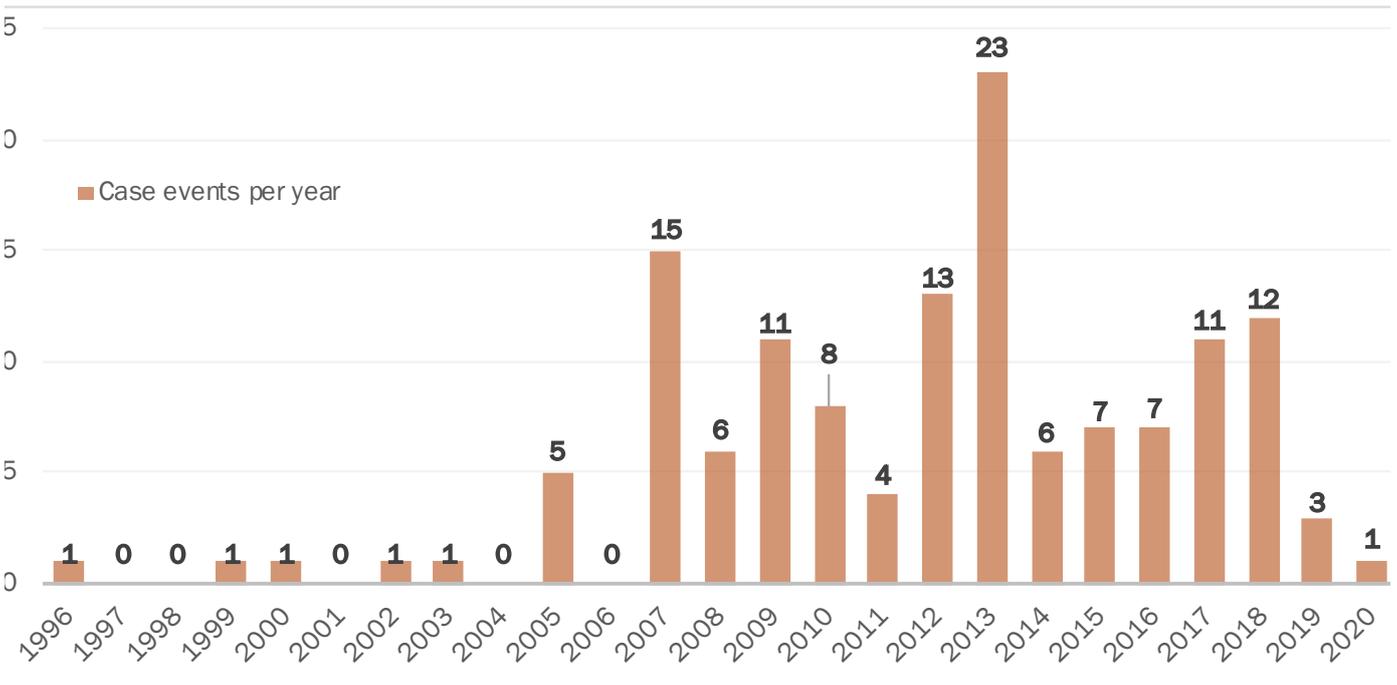


Figure 3. Chronological distribution of cases

Category	Characteristic	N	% (Valid)	Total Valid Cases (Per Variable)
Gender	Male	130	94.9	137
	Female	7	5.1	
Background	Not born in UK	24	24.7	97
	Raised in UK	92	92	100
	First-generation immigrant	20	26.3	76
	Second-generation immigrant	53	69.7	
	Parents and offender born in UK	3	3.9	
Marital status	Married	41	59.4	69
	Single	15	21.7	
	Unmarried Partner	8	11.6	
	Separated	3	4.3	
	Divorced	2	2.9	
Occupation	Unemployed	41	38	108
	Service industry	33	30.6	
	Student	20	18.5	
	Agriculture	6	5.6	
	Sales/Administration	4	3.7	
	Professional	2	1.9	
	Construction	1	0.9	
	Other	1	0.9	
Children	Yes	29	93.5	31
	No	2	6.5	
Educational achievement	UG degree or baccalaureate	9	20	45
	Attended college (no degree)	9	20	
	Community college or trade school degree	9	20	
	Attended community or trade school (no degree)	7	15.6	
	High School graduate	5	11.1	
	Attended High School (no degree)	6	13.3	
In prison for other offence	Yes	18	24	75
	No	57	76	
Ideology at the time of offence	Religious	115	84.6	136
	Right-Wing	19	14	
	Other	2	1.4	
Lone actor	Yes	58	49.6	117
	No	59	50.4	
Attack carried out	Yes	34	27.6	123
	No	89	72.4	

5. OBSERVING THE FRAMEWORKS

In this section, the findings of the exploratory analysis of the seven selected frameworks of radicalisation leading to terrorism involvement and what is termed, for the purpose of this project, their observability, are reported.

As explained previously, for each framework, we calculated the prevalence of each concept, then generated truth tables to establish dominant configurations, then conducted a cluster analysis. For ease of remembrance, a dominant configuration was defined as a profile fitting at least 1 in 10 cases in our sample. If a configuration is not reported in the truth table, it means that no case presented such a profile.

5.1 THE 3N FRAMEWORK

Taking independently each of the framework's core concepts, the "Needs" concept is observable in 62.8% of cases, "Narratives" in 90.5% of cases and "Networks" in 70.8% of cases. The contribution of each indicator is set out in Table 3.

Indicator	N Known	N Yes (pointing to concept being present)	Concept (% present)
Mother unemployed	10	1	Needs: 62.8%
Father unemployed	1	0	
Separated, divorced or widowed	69	5	
Unemployed	108	41	
Mental illness crisis	10	10	
Expelled from school	1	1	
Prison experience	75	18	
History of social isolation	7	7	
Goal interruption	14	14	
Degraded	6	6	
Target of prejudice or unfairness	18	18	
Lied to/Broken promised	0	0	
Disrespected	13	13	
Ignored by someone important	1	1	
Harmed due to negligence	1	1	
Experienced carelessness	2	2	
Victim of assault	3	3	
Personal relationship problems	11	11	
Abusive home (not victim)	0	0	
Physical abuse victim	1	1	
Sexual abuse victim	0	0	
Victim of bullying	4	4	
Perceived group discrimination	6	6	
F2F interaction with network members	86	86	Narratives: 90.5%
Online interaction with network members	78	78	
Consumed propaganda from wider movement	78	78	
Learned about terrorism-supportive ideology from wider sources	21	21	
Family, spouse and/or friends co-offenders	130	92	Networks: 70.8%
First encounter with ideology through friends and family	29	10	
Family or close associates involved in political extremism	17	17	
Spouse or partner involved in political extremism	5	5	

Table 3. Observability of 3N framework core concepts by proxy indicator

OBSERVING THE FRAMEWORKS

Are Conceptual Frameworks of Radicalisation Leading to Involvement in Terrorism 'Observable'?

Observable configurations are summarised in Table 4 below. The truth table reveals 8 configurations (out of $2^3 = 8$ theoretically possible configurations). The most dominant configuration (henceforth, DC) is made up of all three of the framework's concepts – a whole fit – and characterises 54 cases (39.4%). The second DC is made up of "Narratives" and "Networks" (41 cases, 29.9%) and the third DC brings together "Needs" and "Narratives" (26 cases, 18.9%). In 6 cases (4%), none of the 3N concepts are observable. As might be expected, the cluster analysis yields four dominant clusters: the three DCs, plus a fourth cluster made up of all remaining profiles and which is largely defined by an absence of concepts.

Of all 7 frameworks included in this study, the 3N framework demonstrates the highest degree of observability, notably when it comes to what we might call a 'full observable fit' – the presence of all concepts. This can be attributed, to some extent, to its conceptual parsimony, as it is made up of only three, very broad concepts. A small number of concepts, dichotomously coded, constrains the number of possible configurations. As a relatively large number of indicators could be included under the "Needs" conceptual umbrella (theoretically, anything could be subjectively experienced as inducing loss of significance), there was greater opportunity for this concept to be observed. While "Narratives" was linked to fewer indicators, it could be argued that it is a tautological, or 'circular', concept, as exposure to extremist group propaganda or contact with an extremist group is part-and-parcel

of what characterises a terrorist offence.⁷⁸ In this light, a prevalence score over 90% is not unexpected. Overall, we may infer from the performance of the 3N framework that reliance on a narrow set of broad, "building-block"-type concepts of terrorism involvement mixing individual-level and context-level factors favours observability based on open-source case information.

5.2 THE SOCIAL MOVEMENT FRAMEWORK

As operationalised by our choice of proxy indicators, the core concepts of the Social Movement framework are observable as follows: "Cognitive Opening" is observable in 32.8% of cases, "Religious Seeking" in 46% of cases, "Frame Alignment" in 25.5% of cases and "Socialisation" in 83.2% (Table 5).

The next best performing framework is Wiktorowicz's Social Movement Framework. Observable configurations are summarised in Table 6 below. With four core concepts, the framework has 16 possible configurations, 14 of which fit at least 1 case in our sample. Three dominant configurations classify at least 1 in 10 cases each. The profile made up of "Group Socialisation" alone is the most prevalent, representing almost 1 in 3 cases (29.9%). The addition of "Religious Seeking" results in a DC which

78 Guhl, "Why Beliefs Always Matter, but Rarely Help Us Predict Jihadist Violence. The Role of Extremism as a Precursor to Violent Extremism."

Profile	Needs	Narratives	Networks	N
1	x	x	x	54
2		x	x	41
3	x	x		26
4				6
5	x			5
6		x		3
7	x		x	1
8			x	1

Table 4. 3N framework truth table

Indicator	N Known	N Yes (pointing to concept being present)	Concept (% present)
Degraded	6	6	Cognitive opening: 32.8%
Target of prejudice or unfairness	18	18	
Lied to or broken promise	0	0	
Disrespected	13	13	
Ignored by someone important	1	1	
Harmed due to negligence	1	1	
Experienced carelessness	2	2	
Victim of assault	3	3	
Relationship problems	11	11	
Unemployed	2	2	
Family death	0	0	
School dropout	16	16	
Religious conversion	91	16	Religious seeking: 46%
Ideological change	58	3	
Ideological intensification	46	46	
Thrill or sensation-seeking	31	31	
Alignment with group ideology	35	35	Frame Alignment: 25.5%
F2F interaction with members of wider network	86	86	Socialisation: 83.2%
Online interaction with members of wider network	78	78	
Received hands-on training	58	22	

Table 5. Observability of Social Movement framework core concepts by proxy indicator

OBSERVING THE FRAMEWORKS

Are Conceptual Frameworks of Radicalisation Leading to Involvement in Terrorism 'Observable'?

correctly classifies 12.4% of the sample (17 cases). Adding "Frame Alignment" successfully profiles approximately 1 in 10 cases (10.9%). The 'full fit' profile (all concepts present) is not among the DCs, as it was only found in 10 cases (7.2% of the sample).

The cluster analysis yields five clusters. The largest grouping corresponds to Profile 1, whereby only "Socialisation" is observable (29.9%), the second largest evidences some presence of all concepts (22.6%), the third reflects profiles where elements of all concepts are present but "Frame Alignment" (18.2%), the fourth lacks elements of "Socialisation" (16.8%), and a final cluster corresponds to Profile 2, where elements of both "Religious Seeking" and "Socialisation" are observed (12.4%).

If the analysis of the observability of the 3N framework suggested that conceptual parsimony was advantageous, the analysis of the Social Movement framework suggests that indicators related to group exposure and group processes are the most observable or easy to capture, with "Socialisation" proxy indicators performing similarly to "Networks" and "Narratives" indicators in the 3N framework.

Once again, however, it is important to keep in mind the recursive nature of these concepts, to the extent that evidence of ties to a terrorist or extremist organisation will lead to an act being defined as terrorism in the first place. By contrast, indicators of individual psychological processes, in particular "Frame Alignment", are more difficult to document from readily available sources.

Profile	Cognitive Opening	Religious Seeking	Frame Alignment	Socialisation	N
1				x	41
2		x		x	17
3		x	x	x	15
4	x	x		x	13
5	x			x	12
6	x	x	x	x	10
7					8
8		x			5
9	x	x			3
10	x				3
11			x	x	3
12	x		x	x	3
13		x	x		3
14			x		1

Table 6. Social Movement framework truth table

5.3 THE NETWORK FRAMEWORK

In the Network framework, the core concept of "Resonance" is observable in 36.5% of cases, "Moral Outrage" in 4.4%, "Framing" in 15.3% and "Network Mobilisation" in 70.1% (Table 7).

The Network framework performs somewhat similarly to the Social Movement framework and, likewise, has 16 theoretically possible configurations, 11 of which are found in our sample. Observable configurations are summarised in Table 8. Three dominant configurations classify at least 1 in 10 cases in our sample. The most dominant is made up only of "Network Mobilisation"

and describes approximately 2 in 5 cases (41.6%). In the second DC, "Network Mobilisation" and "Resonance" together are observed in 16.7% of the sample (23 cases). The blank configuration (no concept present) accounts for 16% of the sample (22 cases). Full fit (all concepts present) was only observed in 3 instances (2.1%).

The cluster analysis identified four clusters. Unsurprisingly, the largest cluster corresponds to Profile 1 (41.6%), the second encompasses cases where elements of the "Resonance" concept are present (25.5%), the third matched Profile 2 (17.5%), and the remaining cluster is a combination of all remaining profiles (15.3%).

Indicator	N Known	N Yes (pointing to concept being present)	Concept (% present)
Degraded	6	6	Resonance: 36.5%
Target of prejudice or unfairness	18	18	
Lied to/Broken promise	0	0	
Disrespected	13	13	
Ignored by someone important	1	1	
Harmed due to negligence	1	1	
Experienced carelessness	2	2	
Victim of assault	3	3	
Consumed unfair group treatment material (hate crime)	31	31	
Consumed unfair group treatment material (systemic)	3	3	Framing: 15.3%
Perception of ingroup unfair/unjust treatment by authorities	21	21	Moral outrage: 4.4%
Perceived discrimination or perceived derogation of ethnic/national/ religious group	6	6	
Family/spouse/ friends co-offenders	130	92	Network mobilisation: 70.1%
First encounter with ideology through friends/family	29	13	
Family or close associates involved in political extremism	17	17	
Spouse or partner involved in political extremism	5	5	

Table 7. Observability of Network framework core concepts by proxy indicator

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Profile	Resonance	Moral Outrage	Framing	Network Mobilisation	N
1				x	57
2	x			x	23
3					22
4	x				13
5			x	x	7
6	x		x	x	5
7	x	x	x	x	3
8	x		x		3
9	x	x	x		2
10			x		1
11	x	x		x	1

The Network framework is associated with noticeably more cases where all core concepts are unobservable, compared to the two already discussed. Like them, it is network-related indicators which are easiest to capture through open-source information.

5.4 THE TERRORIST MINDSET FRAMEWORK

With regards to the observability of core concepts of the Mindset framework, the "Grievance" concept was observed in 56.9% of cases, "Injustice" in 46%, "Target Attribution" in 51.8%, "Distancing" in 51.8% and "Linearity" in 20.4% of cases (Table 9).

The framework has 32 theoretically possible configurations. The truth table (Table 10) reveals 28 of them in our sample. The most dominant configuration is characterised by the absence of all concepts (16 cases, 12%), while the second DC is characterised by the presence of all concepts, with the exception of "Linearity" (15 cases, 11%). The next most prevalent

profile includes all concepts (full fit). It classifies 6% of the sample (8 cases).

The cluster analysis identified two clusters which did not align with particular profiles, but rather were characterised by the relative presence of all factors (51.8% of the sample) or by the absence of the "Distancing" concept in combination with a weaker representation of all the other factors (48.2%).

Indicator	N Known	N Yes (pointing to concept being present)	Concept (% present)
Separated, divorced or widowed	69	5	Grievance: 56.9%
Unemployed	108	41	
Expelled from school	1	1	
Goal interruption	14	14	
Degraded	6	6	
Target of prejudice or unfairness	18	18	
Lied to/broken promise	0	0	
Disrespected	13	13	
Ignored by someone important	1	1	
Harmed due to negligence	1	1	
Experienced carelessness	2	2	
Victim of assault	3	3	
Relationship problems	11	11	
Abusive home (not victim)	0	0	
Victim of physical abuse	1	1	
Victim of sexual abuse	0	0	
Victim of bullying	4	4	
Perceived ingroup discrimination	6	6	
Angry before event	56	56	Injustice: 46%
Perception of ingroup unfair/unjust treatment by authorities	21	21	
Denounced co-ideologues before event	2	2	Target attribution: 51.8%
Identify individuals/groups responsible for treatment	71	71	
Expressed desire to hurt others	70	70	Distancing: 51.8%
Dehumanised target	2	2	
Radicalization precedes group involvement	137	28	Linearity: 20.4%

Table 9. Observability of Terrorist Mindset framework core concepts by proxy indicator

OBSERVING THE FRAMEWORKS

Are Conceptual Frameworks of Radicalisation Leading to Involvement in Terrorism 'Observable'?

Profile	Grievances	Injustice	Target Attribution	Distancing	Linearity	N
1						16
2	x	x	x	x		15
3	x	x	x	x	x	8
4	x		x			8
5	x					7
6	x		x	x		7
7	x	x				6
8			x			6
9				x		6
10	x	x		x		6
11		x	x	x		6
12	x	x	x			5
13		x		x		5
14	x			x		5
15		x				4
16			x	x		4
17	x				x	4
18		x	x			3
19					x	2
20	x	x			x	2
21	x		x		x	2
22			x	x	x	2
23		x	x	x	x	2
24	x		x	x	x	2
25			x		x	1
26				x	x	1
27		x		x	x	1
28	x			x	x	1

Table 10. Terrorist Mindset framework truth table

From the point of view of observability, the Mindset framework performs unevenly, as evidenced by the number of distinct profiles, which each capture a handful of cases or less, while around 1 in 10 cases display none of the concept-related indicators and just about 1 in 20 display all of them (full fit). It should be noted, however, that if we combine Profiles 2 and 3 – acknowledging that "Linearity" is operationalised by a single indicator that may be particularly difficult to document – then full fit is achieved in approximately 17% of the sample, which is 1 case in 6.

Setting aside very real issues of data availability and interpretation, and of adequacy of the selected proxies, the truth table would suggest that the Mindset framework, while presenting terrorism involvement as a 4-stage psychological process, articulates concepts that are present in many cases, but perhaps not cumulatively.

5.5 THE RATIONAL FRAMEWORK

Given the perception that rational choice accounts of terrorism involvement dominate research,⁷⁹ the Rational Choice framework, perhaps surprisingly, appears to be the worst performing of all seven conceptual frameworks. "Psychological Rewards" was observable in only 1.5% of cases, "Material Rewards" were present in 2.2% of cases, "Recruitment" in 9.5% and "Group Competition" in 15.3% of cases (Table 11). This poor performance may be attributable to the limited choice of proxy indicators for the rewards-related concepts, as they fall largely in the "missing/unknown" category. It is entirely possible that different indicators would have performed better.

Observable configurations for the Rational framework are summarised in Table 12 below. There are 16 theoretically possible configurations. The truth table attributes 7 of them to one or more of our cases. By far, the most dominant configuration is characterised

79 Mccauley and Moskalenko, "Understanding Political Radicalization: The Two-Pyramids Model."

Indicator	N Known	N Yes (pointing to concept being present)	Concept (% present)
Promised increased status	2	2	Psychological rewards: 1.5%
Experienced increased status	0	0	
Promised material rewards	3	3	Material rewards: 2.2%
Experienced material rewards	0	0	
Active recruitment by group/ network	29	13	Recruitment: 9.5%
Perception of ingroup unfair/unjust treatment by authorities	21	21	Group competition: 15.3%
Group competition over material or symbolic resources	0	0	

Table 11. Observability of Rational framework core concepts by proxy indicator

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by the absence of all concepts (102 cases, 74%), while the second (19 cases, 14%) and third (12 cases, 9%) DCs were characterised by the presence of a single concept ("Group Competition" and "Recruitment" respectively).

No case fit a configuration where all concepts were present (a full 'observable fit'). The cluster analysis identified four clusters, corresponding to Profile 1 (no concepts), Profile 2 ("Group Competition"), Profile 3 ("Recruitment") and a combination of all other profiles.

Based on this analysis, the overall observability of the Rational framework is poor, which, as noted, could be attributed to our choice of proxy indicators, and to the fact that, unlike other models considered in this study, this is not a framework *per se* but an amalgamation of rational-choice related mechanisms.

It may also be that the open-source data is largely to blame, inasmuch as it may not contain information on these particular indicators as much as it does others, due to reporting bias.

5.6 THE FRICTION FRAMEWORK

Looking at each core concept which makes up the Friction framework, we find that "Personal Grievances" is observable in 41.6% of cases, "Political Grievances" in 16.1%, "Slippery Slope" in 20.4%, "Status Seeking" in 26.3%, "Thrill Seeking" in 0%, "Power of Love" in 70.1%, and "Unfreezing" in 21.9% (Table 13).

Due to the number of core concepts involved, the Friction framework stands out with 128 theoretically possible configurations, of which 41 are observed in the sample, and only 2 qualify as dominant configurations, as seen in Table 14. In the most prevalent configuration, approximately 1 in 5 cases, only indicators of the "Power of Love" concept are observed (32 cases, 23%). In the second most prevalent, approximately 1 in 10 cases, "Power of Love" is joined by "Personal Grievances" (16 cases, 12%). A third, blank configuration is borderline dominant, fitting 11 cases (8 %).

The cluster analysis reduces the sample to four groupings. The dominant cluster overlaps Profile 1 (31%), the second is dominated by Personal Grievances in the absence of elements of Political Grievances, Thrill or Status Seeking and Unfreezing (19.7%), the third reflects the presence of all concepts but Thrill Seeking, with slightly weaker representation

Profile	Psychological Rewards	Material Rewards	Recruitment	Group Competition	N
1					102
2				x	19
3			x		12
4	x	x			1
5			x	x	1
6	x	x		x	1
7		x	x		1

Table 12. Rational framework truth table

Indicator	N Known	N Yes (pointing to concept being present)	Concept (% present)
Separated, divorced or widowed	69	5	Personal grievance: 41.6%
Unemployed	108	41	
Expelled from school	1	1	
Degraded	6	6	
Target of prejudice or unfairness	18	18	
Lied to/broken promise	0	0	
Disrespected	13	13	
Ignored by someone important	1	1	
Harmed due to negligence	1	1	
Experienced carelessness from someone important	2	2	
Victim of assault	3	3	
Relationship problems	11	11	
Abusive home (not victim)	0	0	
Physical abuse victim	1	1	
Sexual abuse victim	0	0	
Victim of bullying	4	4	Political grievance: 16.1%
Perception of ingroup unfair/unjust treatment by authorities	21	21	
Perceived discrimination or perceived derogation of ethnic/national/ religious group	6	6	Slippery slope: 20.4%
Prison experience	75	18	
Arrested as juvenile	7	7	
History of childhood violence	1	1	
Prior high-risk group activism	9	9	
Military experience	1	0	Status seeking: 26.3%
In military at time of event	2	0	
Sought legitimisation	16	16	
Claimed responsibility publicly	30	29	
Promised increased status	2	2	
Experienced increased status	0	0	Thrill-seeking: 0%
Thrill-seeking	0	0	
Family, spouse or friends co-offenders	130	92	Power of love: 70.1%
First encounter with ideology through friends/family	29	13	
Family or close associates involved in political extremism	17	17	
Spouse or partner involved in political extremism	5	5	
Goal interruption	14	14	Unfreezing: 21.9%
Recently unemployed	2	2	
Recent family death	0	0	
Recent school dropout	16	16	

Table 13. Observability of Friction framework core concepts by proxy indicator

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from Political Grievances, Slippery Slope and Status Seeking (18.2%), and the last cluster reflects all concepts but Thrill Seeking (0%).

The Friction framework is, as previously discussed, a special case. In no case are all core concepts observed. In only 1 case are all core concepts but Thrill Seeking observed. On the face of it, the Friction framework performs poorly in our particular test of framework observability. However, it should be noted that the framework's authors do not claim that all of the

mechanisms they identify must come together for radicalisation to occur, each to some extent representing a possible involvement pathway. Conversely, they do not offer estimates of how prominent these mechanisms may be relative to each other, nor do they state that these mechanisms cannot occur concurrently. Indeed, the authors describe how several of these mechanisms combined in the background of Osama bin Laden.

The value of the present analysis is therefore less in evaluating an overall observable fit, as with "phased"

	Personal Grievances	Political	Slippery Slope	Status Seeking	Thrill Seeking	Power of Love		N
1						x		32
2	x					x		16
3								11
4				x		x		7
5						x	x	6
6	x					x	x	6
7	x							5
8	x		x					4
9			x					3
10		x	x	x		x		3
11	x						x	3
12	x			x		x	x	3
13				x				2
14		x				x		2
15	x	x				x		2
16			x			x		2
17	x		x			x		2
18		x		x		x		2
19	x	x		x		x		2
20			x	x		x		2
21	x	x				x	x	2

	Personal Grievances	Political	Slippery Slope	Status Seeking	Thrill Seeking	Power of Love		N
22		x	x					1
23	x	x	x					1
24		x		x				1
25	x			x				1
26	x	x		x				1
27		x	x	x				1
28	x		x	x				1
29	x			x		x		1
30	x		x	x		x		1
31	x	x	x	x		x		1
32							x	1
33	x		x				x	1
34		x	x				x	1
35		x		x			x	1
36	x			x			x	1
37			x	x			x	1
38	x	x		x		x	x	1
39			x	x		x	x	1
40	x		x	x		x	x	1

Table 14. Friction framework truth table

or "interactive" conceptual frameworks, but in establishing observable prevalence of each concept or combination of concepts. We can therefore take note that the "Power of Love" concept is noticeably more observable, while "Thrill Seeking" is entirely undocumented. Looking at the operationalisation of "Power of Love", this makes sense in the light of previous findings, as network-related indicators (e.g., extremist spouse) have turned out to be the easiest to capture.

5.7 THE "COUNTER-TERRORISM" (CT) FRAMEWORK

The prevalence of the CT framework's core concepts shows the dominance of "Radical Exposure", which is observed in almost all cases (95.6%), followed by "Protective Factors" (38%), which seems an unexpected finding, given the CT framework's theoretical assumptions and the well-documented role of marriage as a prosocial turning point in criminal involvement.⁸⁰

80 Craig, Diamond, and Piquero, "Marriage as an Intervention in the Lives of Criminal Offenders."

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However, this could be explained by the fact that, given missing data, the concept is largely operationalised by marital status alone (i.e., married or partnered), and that in the terrorism domain, spouses and partners are documented agents of radicalisation and exposure to extremist networks.⁸¹ Other indicators of protective processes are harder to capture and perhaps unlikely to be reported in open sources, relative to factors thought to 'explain' the offending behaviour.

This brings to attention the difficulty in assessing the meaning of any given indicator divorced from its interaction with other, contextual factors.⁸² To put it colloquially, interaction with context can 'flip the polarity' of a given indicator (for example, marriage), which may signal a risk-reducing process in one instance (for example, a process of extremism-suppressing social control) and a risk-inducing process in another (for example, a process of extremism-enabling social learning).

With regards to the remaining concepts, "Grievances" is observable in 35.8% of cases, "Individual Vulnerabilities" in 27.7%, "Identity Needs" in 22.1%,

"Cognitive Crisis" in 12.4% and "Participation Barriers" in 4.4% of the sample (Table 15).

Like the Friction framework, the CT framework has, theoretically, 128 possible configurations, of which we observe 34. Unlike the Friction framework, there is an assumption that risk emerges from the combination of some, if not necessarily all, of the core concepts. In particular, it is expected that involvement would be the outcome of the convergence of "Individual Vulnerabilities", "Cognitive Crisis" and "Radicalising Exposure" in the absence of "Protective Factors", with "Participation Barriers", "Grievances" and "Identity Needs" being more 'optional'.

It is notable that, unlike the previous conceptual frameworks, the formulation of the CT framework incorporates protective factors, which are hypothesised to play a part in preventing or disrupting the process of terrorism involvement. In terms of this analysis, the argument could therefore be made that in the case of the CT framework, a 'full fit' is a configuration that includes all concepts, *minus* "Protective Factors". Such a configuration is not present in the table, however, so the 'full fit' score is null. The expected configuration set out above is only observed in a single case, according to the truth table (Profile 24). There are 3 cases (2%) where no indicators are observed, including those

81 Sageman, Understanding Terror Networks.
 82 Corner, Bouhana, and Gill, "The Multifinality of Vulnerability Indicators in Lone-Actor Terrorism."

Indicator	N Known	N Yes (pointing to concept being present)	Concept (% present)
Not born in UK	97	24	Individual vulnerabilities: 27.7%
Expelled from school	1	1	
Prison experience	75	18	
Mental health crisis	10	10	
Juvenile arrest	7	7	
Substance abuse	12	12	
Mental health issues short of diagnosis	7	7	
Mental health diagnosis	7	7	
Abusive home (not victim)	0	0	
Physical abuse	1	1	
Sexual abuse	0	0	
Violent childhood victimisation (not domestic)	0	0	
Victim of bullying	4	4	

F2F interaction with members of wider network	86	86	Radicalising exposure: 95.6%
Online interaction with members of wider network	78	78	
Learned ideology from virtual sources	21	21	
Effective group/network membership (beyond claim)	88	78	
Consumed propaganda from wider movement	78	78	
Recently unemployed	2	2	Cognitive crisis: 12.4%
Family death	0	0	
Recent school dropout	16	16	
Married or partnered	69	49	Protective factors: 38%
In military at time of event	2	2	
Strong non-radical ties	7	0	
Evidence of self-control	3	3	
Degraded	6	6	Grievances: 35.8%
Target of prejudice or unfairness	18	18	
Lied to/broken promise	0	0	
Disrespected	13	13	
Ignored by someone important	1	1	
Harmed due to negligence	1	1	
Experienced carelessness from someone important	2	2	
Victim of assault	3	3	
Relationship problems	11	11	
Perception of ingroup unfair/unjust treatment by authorities	21	21	
Perceived discrimination or perceived derogation of ethnic/national/ religious group	6	6	Identity needs: 22.1%
Religious conversion	91	16	
Sought legitimisation	16	16	
Failed to join non-extremist group/network	0	0	
Unsuccessfully volunteered for social or political activity	0	0	Participation barriers: 4.4%
Unsuccessful in securing desired job	3	3	
Avoid social contact outside own ethnic/religious/cultural community	4	4	

Table 15. Observability of CT framework core concepts by proxy indicator

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related to protective factors. Not unexpectedly, there is no profile where "Protective Factors" alone are present. The truth table reveals two dominant configurations (Table 16). The first, which characterises about 1 in 5 cases, is made up of "Radical Exposure" alone (22.6% of sample). The second DC adds the observation of "Protective Factors" (11.7%).

The cluster analysis did not lend support to a dominant grouping or 'pathway', revealing instead 6 clusters of mixed observations. Four clusters captured approximately a fifth of the sample, each. The first corresponds to Profile 1, characterised by "Radicalising Exposure" (22.6%); the second reflects the presence of all concepts, minus "Protective Factors", with weaker representation of the individual-level concepts "Grievances" and "Cognitive Crisis",

Profile	Participation Barriers	Identity Needs	Grievance	Protective Factors	Cognitive Crisis	Individual Vulnerability	Radical Exposure	N
1							x	31
2				x			x	16
3			x				x	13
4						x	x	11
5			x	x			x	8
6		x	x	x			x	4
7					x		x	4
8		x					x	4
9		x	x	x			x	4
10								3
11				x	x		x	3
12			x			x		3
13			x		x		x	3
14			x	x		x	x	3
15		x		x			x	3
16		x				x	x	2
17				x		x	x	2
18			x			x	x	2
19		x		x		x	x	2
20		x	x				x	2
21		x	x	x	x	x	x	2
22						x		1
23		x	x	x		x	x	1
24					x	x	x	1

Profile	Participation Barriers	Identity Needs	Grievance	Protective Factors	Cognitive Crisis	Individual Vulnerability	Radical Exposure	N
25		x				x	x	1
26		x		x	x		x	1
27		x	x			x	x	1
28		x	x		x		x	1
29	x					x	x	1
30	x			x			x	1
31	x		x	x	x		x	1
32	x	x				x	x	1
33	x	x	x	x		x	x	1
34	x	x	x	x			x	1

and of "Participation Barriers" (22%), which comes close to reflecting the expected configuration; the third includes evidence of "Protective Factors", with weak representation of indicators of "Individual Vulnerabilities", and no presence of "Identity Needs", "Cognitive Crisis" or "Participation Barriers" (20%); and the fourth cluster also includes evidence of "Protective Factors", but no "Grievances" and weak support for "Identity Needs", "Cognitive Crisis", "Individual Vulnerabilities" and "Participation Barriers". Two smaller clusters (9%, each) reflected a grouping with no presence of "Individual Vulnerabilities", weak support for "Identity Needs" and "Participation Barriers", with no presence of "Protective Factors", and another grouping with all concepts present, including "Protective Factors", but weak support for "Cognitive Crisis" and "Participation Barriers".

As was observed with the 3N and Social Movement frameworks, the core concept which largely dominates observations, "Radicalising Exposure" is one that brings together 'circular' indicators, which arguably characterise terrorist offences in the first place, like evidence of access to propaganda material produced by extremist groups, and indicators which capture factors external to the individual, such as evidence of face-to-

face exposure to an extremist network. Comparatively, indicators related to the individual's psychological state are not captured as frequently. Both the truth table and the cluster analysis would suggest that the CT framework embodies less a coherent model of radicalisation leading to terrorism involvement than a set of characteristics that vary noticeably between cases.

6. FRAMEWORK FITNESS OVER TIME

Following the observability analysis for each framework, we wanted to examine the question of observability over time. For instance, it could be that some frameworks were more observable earlier in our chronology or, conversely, later, suggesting cohort effects.⁸³ Unfortunately, the number of cases which fully 'fit' each framework was too small for any meaningful analysis.

Nevertheless, for information, we provide Table 17, which reports the number of full-fit cases per framework over the first and second halves of our sample, approximately split in half in 2012. Anecdotally, this (roughly) corresponds to the rise to prominence of ISIS-inspired terrorism and the ascent of online radicalisation settings.

The only observation of note with regards to this table, beyond the further reminder that 'fully' observing a framework is rare, is that the 3N framework is, by and large, observed similarly well before and after 2012, performing marginally better in the earlier time period, perhaps owing to the accumulation of information on older cases. Numbers are otherwise too small for meaningful commentary.

	Full Observable Fit 1995-2012 (N=67)	Full Observable Fit 2013-2020 (N=70)	Full Observable Fit 1995-2020 (N=137)
3Ns	31	23	54
Movement	11	6	17
Mindset	0	8	8
Network	0	3	3
CT	0	0	0
Rational	0	0	0
Friction	0	0	0

Table 17. Framework observable fit over time

83 Gill et al., "Indicators of Lone Actor Violent Events: The Problems of Low Base Rates and Long Observational Periods."

7. CORE CONCEPTS CLUSTER ANALYSIS

In the final phase of the analysis, core concepts were considered independently of the frameworks to which they belong. As proposed in an earlier section, while no single framework so far has been shown to account for the whole phenomenon of radicalisation leading to terrorism involvement, several may contribute some piece of the puzzle.⁸⁴

As a visual first step, the PI's S5 framework⁸⁵ was used as a guide to colour-code each concept according to whether it seemed to broadly capture characteristics, processes or factors associated with *individual susceptibility to moral change* (Orange) or characteristics, processes or factors associated with *exposure to radicalising settings* (Green). Those concepts previously described as tautological or 'circular' were also colour-coded (Grey). Arguably, they could be considered mixed concepts (both Grey

and Green), as they imply *exposure to settings of socialisation into terrorism-supportive norms*. Those concepts that did not seem an obvious fit for these three categories or appeared to fit more than one were left blank.

The resulting figure (Figure 3) allows for the visualisation of some of the findings conveyed in the truth tables. 'Grey Concepts' (terrorism-supportive norm exposure and socialisation) are observable in most cases (range: 83-95%). 'Green Concepts' (exposure to radicalising settings, where terrorism-supportive socialisation may occur) are observable in a large majority of cases (range: 70-71%), while the 'Orange Concepts' (individual susceptibility) are observed in a third of cases at most, with the exception of 'Needs' (range: 0-63%).

Moving on from simple visualisation, a cluster analysis of all the core constructs was conducted. To avoid artificial over-representation, those concepts belonging to different frameworks which were operationalised

84 Dalgaard-Nielsen, "Violent Radicalization in Europe: What We Know and What We Do Not Know"; Bouhana, "The Moral Ecology of Extremism: A Systemic Perspective."

85 Bouhana, "The Moral Ecology of Extremism: A Systemic Perspective."

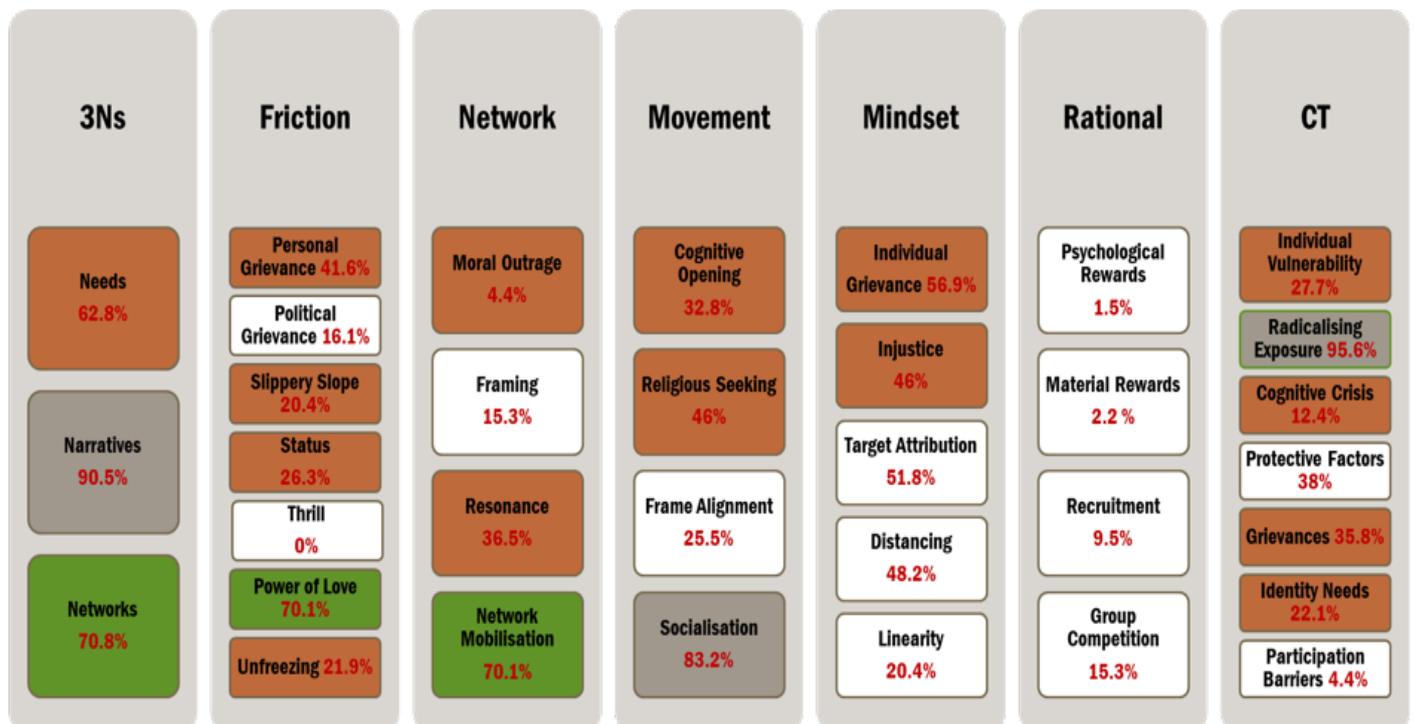


Figure 3. Observability of core concepts

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using an overlapping set of indicators were merged. The core concepts merged in this final analysis were:

- Needs (3N), Grievance (Terrorist Mindset), Personal Grievance (Friction), Cognitive Opening (Social Movement), Resonance (Network), Individual Vulnerability (CT) and Grievance (CT)
- Narratives (3N), Socialisation (Social Movement) and Radicalising Exposure (CT)
- Networks (3N), Active Recruitment (Friction), Power of Love (Friction) and Network Mobilisation (Network)

- Injustice (Terrorist Mindset), Political Grievance (Friction), Moral Outrage (Network) and Framing (Network)
- Unfreezing (Friction) and Cognitive Crisis (CT)

The procedure revealed two clusters, splitting the sample into two almost-even groupings (Table 18). Core concepts which are present in Cluster 1 more than in Cluster 2 are highlighted in orange, while the amalgamated core concept which dominates in Cluster 2 is highlighted in green. Highlighted in grey is the amalgamated core concept which was characterised as 'circular' in the earlier discussion (i.e., characteristic of

Core Concepts	Cluster 1 "Susceptibility" N = 76 (55.5%)	Cluster 2 "Exposure" N = 61 (44.5%)
Needs / Grievance / Individual Vulnerability / Opening	61 (80%)	25 (41%)
Narratives / Socialisation / Radicalising Exposure	64 (84%)	60 (98%)
Networks / Mobilisation / Power of Love	37 (48%)	60 (98%)
Injustice / Outrage / Political Grievance / Framing	44 (58%)	19 (31%)
Frame Alignment	34 (45%)	1 (1.6%)
Identity Needs	29 (38%)	1 (1.6%)
Target Attribution	48 (63%)	23 (38%)
Distancing	43 (57%)	28 (46%)
Linearity	27 (36%)	1 (1.6%)
Religious Seeking	52 (67%)	13 (21%)
Slippery Slope	24 (32%)	4 (6.6%)
Status Seeking	29 (38%)	7 (11%)
Unfreezing / Cognitive Crisis	21 (28%)	9 (15%)
Group Competition	19 (25%)	2 (3.3%)
Protective Factors	26 (34%)	26 (43%)
Psychological Rewards	2 (2.6%)	0 (0%)
Material Rewards	3 (3.9%)	0 (0%)
Thrill Seeking	0 (0%)	0 (0%)
Participation Barriers	5 (6.6%)	1 (1.6%)

Table 18. Core concept cluster analysis

terrorism by definition and therefore present in most cases in the sample).

Cluster interpretation can, arguably, be more art than science. However, the fact that two clusters are revealed, as well as the arrangement of the first three rows in Table 18, suggest a reading which seems supported by the examination of the rest of the table.

As expected, the 'circular' (i.e., tautological) concepts of Narratives and Radicalising Socialisation or Exposure are highly, almost equally present in both clusters. Beyond this, Cluster 1 appears dominated by *susceptibility*-related core concepts (represented in orange in Figure 3), while Cluster 2 is characterised by a stronger representation of *exposure* core concepts (an amalgamation of the concepts represented in green in Figure 3).

This pattern is neatly summarised in the first three rows of the table, showing roughly inverted proportions of susceptibility and exposure in each cluster, an observation which is reinforced when we take into account other susceptibility-related concepts, which are dominant in Cluster 1. Notably, all but one observation of "Identity Needs" and "Frame Alignment" fall in that first cluster, while "Religious Seeking" and "Injustice" are observed in the majority of Cluster 1 cases.

Of course, that is not to say that Cluster 1 shows no element of exposure or Cluster 2 shows no element of susceptibility, as is to be expected in cluster analysis. Rather, the analysis suggests that the sample is roughly split into a group of cases in which *who and why* indicators dominate observations and another group in which *where and how* indicators dominate observations.

As this report has been at pain to make clear, this study is descriptive in nature and cannot support any conclusions related to the so-called drivers or causal processes of radicalisation find that frame alignment (a susceptibility proxy indicator) and community crisis (an exposure proxy indicator) alone achieve the status of necessary conditions for radicalisation.⁸⁶ It also calls to mind one of the implications derived from the interactive logic of Bouhana's S5 framework,

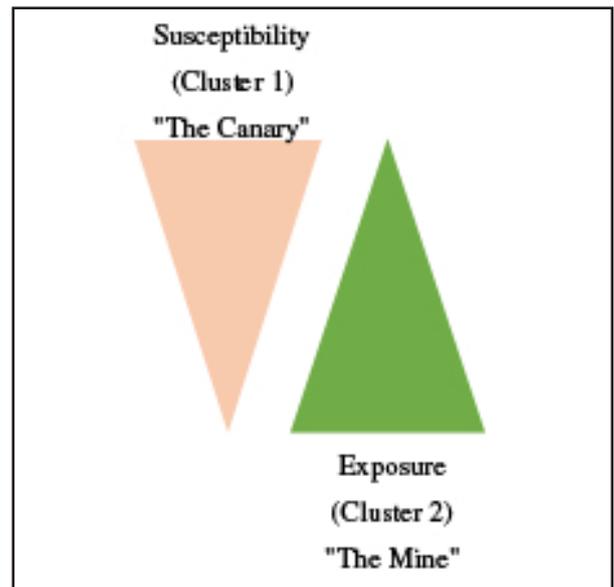


Figure 5. Susceptibility-Exposure relationship

which is that there is "an inverse relationship between susceptibility [to moral change] and exposure [to radicalising settings] (i.e., the higher the susceptibility to moral change, the lower the exposure required for propensity change [radicalisation])."⁸⁷

In other words, the expectation is that in some cases individual susceptibility would be the dominant determinant of radicalisation and involvement, while in others exposure would be the key determinant. Bouhana dubs the first category of cases the "canaries", in that they are likely to be the first to 'drop' when toxicity (radicalising socialising influence) rises to even modest levels in the 'coal mine' (radicalising settings). Meanwhile, to pursue the analogy, in the second category of cases, individuals who may not display the same acute susceptibility characteristics may still 'drop' once toxicity reaches higher levels; in other words, even individuals who are not highly susceptible to moral change can radicalise if they experience sustained (over time) and effective (in terms of socialisation) exposure to the gas in the 'coal mine' (Figure 5), as a result of self or social selection processes.⁸⁸

86 Jensen et al., "Radicalization to Violence : A Pathway Approach to Studying Extremism Radicalization to Violence : A Pathway Approach to Studying Extremism."

87 Clemmow, Bouhana, and Gill, "Analyzing Person-Exposure Patterns in Lone-Actor Terrorism: Implications for Threat Assessment and Intelligence Gathering," 468.

88 Bouhana, "The Moral Ecology of Extremism: A Systemic Perspective," 14.

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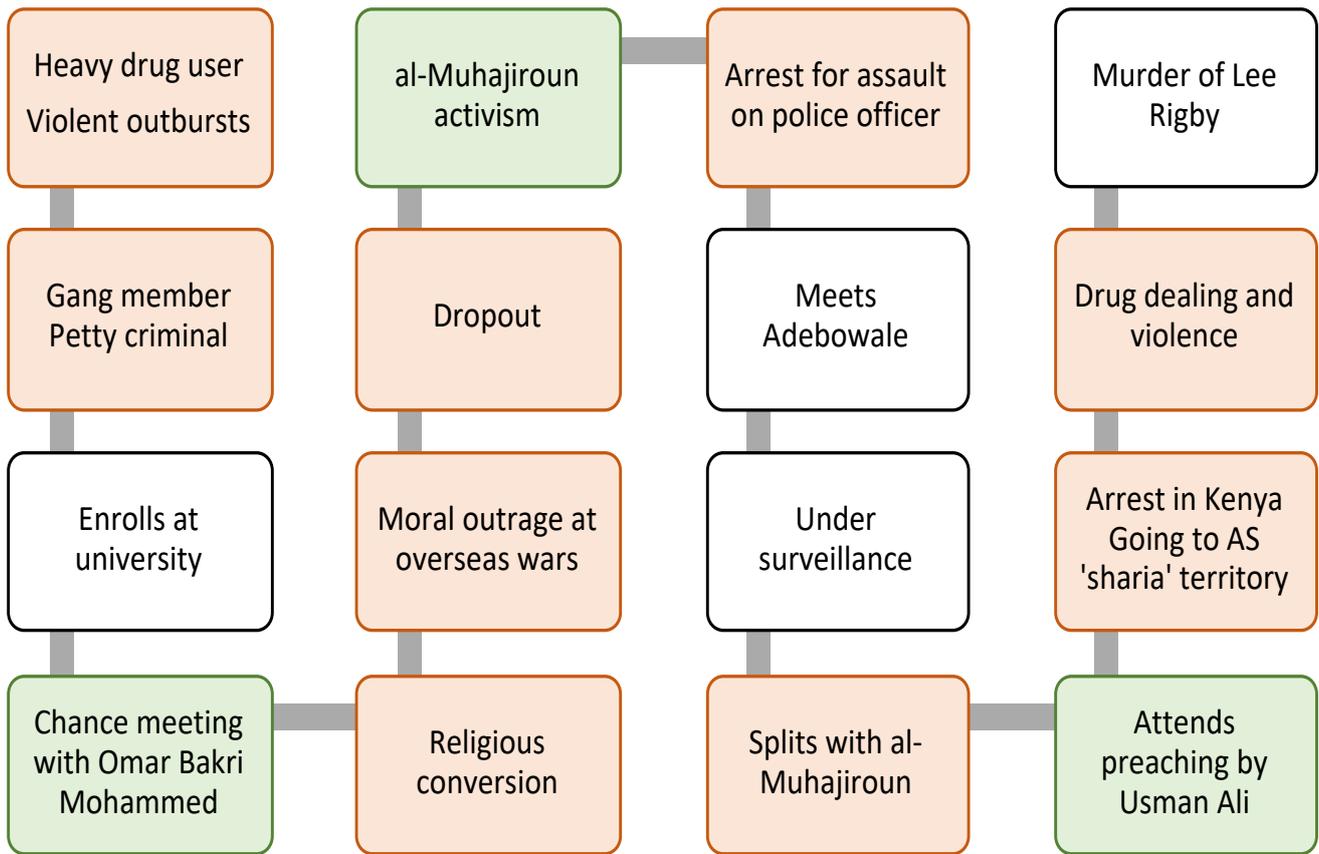


Figure 6. Developmental trajectory of Michael Adebolajo ("Susceptibility" Cluster)

For illustrative purposes, we can briefly mention two high-profile cases, which are assigned to each cluster.

The case of Michael Adebolajo, who murdered Fusilier Lee Rigby in 2013, is associated with Cluster 1, the susceptibility-dominant cluster. A brief outline of his life history leading up to the murder evokes a preponderance of observable susceptibility-related proxy indicators (highlighted in orange) in his trajectory, compared to exposure-related proxies (highlighted in green) (Figure 6). Here is an individual whose characteristics appear to fall closely in line with cognitive and effective dispositions associated with tendency for extreme political action⁸⁹, and who lived an unstable and criminogenic lifestyle long before a chance encounter with a radical preacher orientated his existing antisocial propensity towards violent extremism.

By contrast, the case of Thomas Mair, who murdered MP Jo Cox, is affiliated with Cluster 2, the exposure-

dominant cluster. As previously stated, this does not mean that susceptibility-related proxies are absent from his trajectory. Rather, it reflects the length and intensity of the exposure to terrorism-supportive materials and the determinant role of certain mechanisms in his developmental process, such as social isolation (Figure 7).

While we may not immediately think of it as an exposure proxy indicator, social isolation as a mechanism determines an individual's activity field and, therefore, their exposure to particular socialising settings. Thomas Mair's *loneness* or *self-exclusion* is a factor of selection for exposure to specific kinds of radicalising materials best consumed in isolation and – just as importantly – of *de-selection* for exposure to countervailing (prosocial) socialising settings.

This case also exemplifies the challenge posed to the analyst by versatile (i.e., multifinal) proxies: the same indicator could relate to different processes and different stages in the individual's developmental

89 Zmigrod and Goldenberg, "Cognition and Emotion in Extreme Political Action."

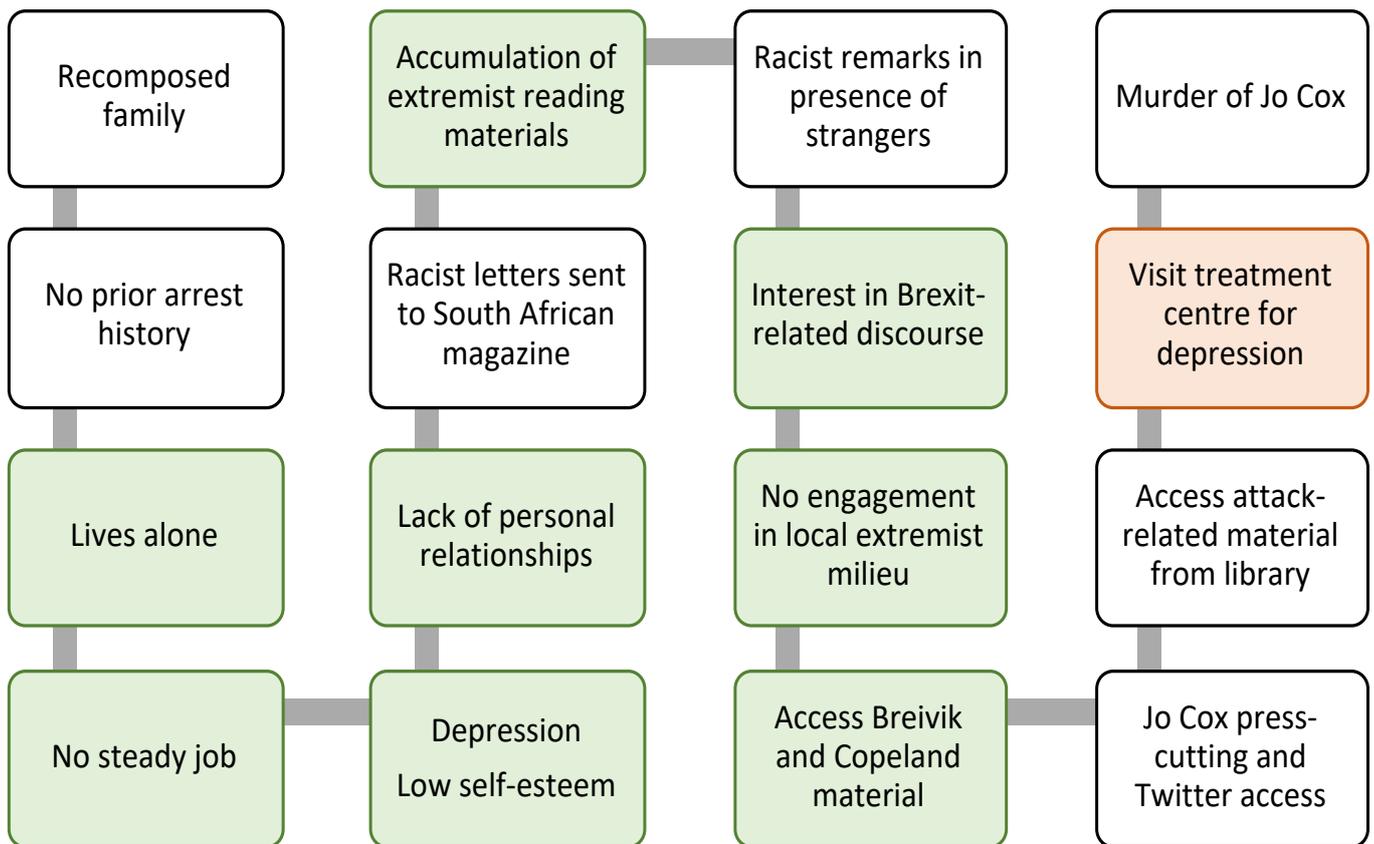


Figure 7. Developmental trajectory of Thomas Mair ("Exposure Cluster")

process.⁹⁰ While mental health issues have been reported in Mair's background, including OCD and depression, it is not clear whether they contributed to his susceptibility to radicalising influence (for example, by affecting his cognition), his motivation to attack Jo Cox (for example, by affecting his perception of his capability to successfully carry out the murder⁹¹), or his exposure (for example, by impeding his ability to form social relationships and contributing to his preference for long-distance interaction with radical peers, which would have kept him 'under the radar' of local law enforcement).

That is why, in the following figure, depression is colour-coded as an exposure indicator (green), then as a susceptibility-indicator (orange). This is one interpretation of the indicator's underlying meaning, here using the aforementioned S5 framework as an analytical guide. Use of another framework or access

to additional information may lead to a different conclusion.

It must be stressed that the purpose of the cluster analysis and accompanying examples is *not* to make the case for the existence of a dichotomy, which would reify 'ideal types' of individuals, developmental trajectories or, worse, *profiles*. Attention is merely drawn to key categories of processes of terrorism involvement – susceptibility and exposure - which, it is argued, first must be observed, then evaluated *in relation to each other*, in order to estimate the individual risk of involvement in terrorism.

90 Corner, Bouhana, and Gill, "The Multifinality of Vulnerability Indicators in Lone-Actor Terrorism."

91 Bouhana et al., "Risk Analysis Framework. FP7 PRIME Project."

8. LIMITATIONS AND IMPLICATIONS

This study is not without clear limitations, which must be kept in mind before drawing any conclusions from its findings.

As a piece of action research, it was constrained by time and access to data. A more ambitious study might produce different results. As is inevitably the case with any such endeavour, decisions had to be made in terms of the selection of frameworks to be included, the range of core concepts within each framework, and more importantly the choice of proxy indicators used to operationalise these concepts. As we have seen, one or two indicators ended up disproportionately determining the 'observability' of some of the concepts; therefore, discrete indicator choice would have had a disproportionate impact on the observability of some of the frameworks.

While informed by the literature and prior empirical research, these choices were, to an undeniable extent, arbitrary. Another way to proceed might have been to agree a suitable list of indicators with the frameworks' authors or to conduct a survey with practitioners to elicit their own operationalisation of these constructs. This could be the focus of further research.

While we adopted the stance that missing data were part-and-parcel of any test of observability (to be observable, a concept first has to be *capturable*, so to speak), it remains that another approach to data collection or access to close sources could generate more or different observations. That is also an issue which replication efforts should address.

We do not minimise these very real caveats when we remark that counter-terrorism practice and strategy-making operate under similar constraints and venture to discuss some possible implications of our findings.

8.1 THE LITERATURE IS LACKING

The most important finding to note is that, with a few exceptions⁹², the literature contains *very limited guidance* on how to operationalise core concepts which have been proposed to explain radicalisation leading to involvement in terrorism, regardless of the models to which they belong.

The difficulties of conducting risk analysis and the limitations of risk assessment tools have been discussed at length elsewhere,⁹³ but it can be remarked here that drawing from analytical frameworks for guidance may be even more of a challenge when research is conducted with the benefit of *ex post* knowledge and data on terrorist cases, while, for example, risk analysis in an investigative context is likely to be conducted *ex ante*, quite possibly before much of the information accessed in a study like the present one may be known.

If the bulk of this effort is left up to users (e.g., analysts, policymakers, intervention designers and deliverers) to figure out, it may inevitably result in arbitrary decisions about operationalisation that might not reflect the framework's creators' intent and their expert judgement – as may be the case in this study. It could also lead to frameworks being set aside as a source of guidance in the analysis of extremism risk emergence broadly speaking. It may further result in the idiosyncratic operationalisation of the same frameworks and concepts, introducing high variability in practice and creating additional obstacles to the accumulation, integration, validation and transmission of best practices and strategic knowledge in this domain.

If we are keen for research to inform CT practice or policymaking, then *research programmes must deliver operational, observable constructs, or at the very least provide guidance on how, when and where observations should be made, and on the basis of*

92 See, for example, Jasko, LaFree, and Kruglanski, "Quest for Significance and Violent Extremism: The Case of Domestic Radicalization."

93 Sarma, "Risk Assessment and the Prevention of Radicalization from Nonviolence Into Terrorism."

which principles inferences should be drawn. In the ideal, this would include direction on what relative weight to give concepts and their proxies, and what importance, if any, to give to temporal ordering. This is not so much a scientific issue as it is an *engineering* endeavour, which should result in the development of more effective risk evaluation and risk reduction technologies.

8.2 PROXY INDICATORS ARE VERSATILE

A directly related finding is that proxy indicators are versatile, in that they can be related to more than one core concept. Only with explicit analytical guidance – for example, indications on which other contextual features might weigh in on the indicator's interpretation – can their meaning be inferred.

A few indicators in particular seem to do a lot of the 'heavy-lifting' in terms of observation, simply because they are easier to capture. This is the case, for example, of a variable like unemployment. In the literature, it is used both as a proxy for loss of significance⁹⁴ and for a deficit of social control,⁹⁵ which are distinct processes. In some cases, it could also plausibly be interpreted as a proxy for vulnerability to exposure to certain (radicalising) environments (for example, an unemployed person might have more free time to spend online or attract the attention of a radicalising agent looking to exploit the seemingly vulnerable). Likewise, theoretically, any indicator believed to signal a psychological susceptibility or a motivation to act, such as outbursts of anger or displays of moral outrage, may just as well indicate a selection process (for example, if the anger and outrage move the individual to take part in a political demonstration where they *then*, incidentally, make first contact with a member of a radical network). It can also signal both of these things *at the same time*.⁹⁶ In the same vein, a long criminal record may indicate both susceptibility (chronic criminality is consistently associated with low self-control and low commitment to prosocial moral

rules and norms)⁹⁷ and selection (criminal networks are vectors of exposure to radicalising agents).⁹⁸

These brief examples illustrate the complexity of the task at hand to the extent that any observation requires an element of interpretation of the captured information to be of use. Arguably, this is where analytical frameworks can prove their mettle – so to speak – going beyond a laundry list of indicators to provide guidance to *interpret their meaning in context*.

8.3 FRAMEWORKS OF RADICALISATION ARE NOT OBSERVABLE IN DATA

As regards the study's main research question – are better-known frameworks of radicalisation leading to terrorism involvement readily observable through available data? – the answer would appear to be *no*, at least if observability is taken to mean the presence of all core concepts, the co-occurrence of which is stated as necessary by the framework. Once again, this bears no implication for the validity of these frameworks as explanations of radicalisation leading to involvement in terrorism.

Should we conclude that strategy makers, risk analysts or intervention designers should cast aside theoretical models altogether? The previous point about the versatility of indicators suggests that the answer to that question is also likely to be *no*. Without some form of structured, analytical guidance, it would be difficult to interpret systematically (as opposed to anecdotally) the meaning of proxies in a given case at a given time and, just as crucially, to accumulate knowledge and pass on lessons learned for the interpretation of future cases, or to select objective and meaningful outcome indicators for an intervention implemented in a specific time or place. But again, this requires some added lifting on the part of framework designers and researchers in providing operational guidance.

94 Jasko, LaFree, and Kruglanski, "Quest for Significance and Violent Extremism: The Case of Domestic Radicalization."

95 Jensen and LaFree, "Final Report: Empirical Assessment of Domestic Radicalization (EADR)."

96 Bouhana and Wikström, "Al-Qaeda-Influenced Radicalization: A Rapid Evidence Assessment Guided by Situational Action Theory."

97 Wikström and Treiber, "What Drives Persistent Offending? The Neglected and Unexplored Role of the Social Environment."

98 Basra and Neumann, "Criminal Pasts, Terrorist Futures: European Jihadists and the New Crime-Terror Nexus."

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8.4 FUTURE STEPS

How, then, to proceed from here? Beyond the just-stated advice that frameworks should come with operational guidance, it remains that several core concepts appear observable, if not their parent model taken as a whole. This is especially true when conceptually overlapping constructs are considered in aggregate and reduced to parsimonious, amalgamated concepts. This is reflected in the relatively good observability – compared to other frameworks – of the 3N model, whereby aggregated markers of ideological exposure (Narratives) are, logically enough given the definition of terrorism, the most observable, followed by aggregated markers of exposure (Networks) and aggregated markers of individual susceptibility (Needs).

Arguably, one of the most useful functions of an analytical framework is to reduce the complexity of systemic problems, of which radicalisation is an instance.⁹⁹ As such, it might be that the most valuable contribution of this exploratory study is not so much what it says – or doesn't say – about the observability of any given model, but rather what is suggested by the outcome of the core concept cluster analysis: that cases of UK homegrown radicalisation appear to fall alongside two observable dimensions – susceptibility (WHO) and exposure (WHERE) – and that understanding risk emergence broadly speaking may come down, above much else, to an appreciation of the role these general processes play in any given context *and* in interaction with each other.

If that is indeed the case, then going forward analytical frameworks would be ideally characterised by:

- A parsimonious number of well-defined, causally effective, *weighted* core concepts;
- Consideration of *both* individual- and environmental-level determinants of radicalisation leading to involvement in terrorism;
- A clear set of interaction rules, which articulate explicitly how and when the intersection of susceptibility and exposure factors would generate risk of radicalisation leading to involvement in terrorism;

- A clear set of operationalisation principles, which would guide the observation and interpretation of each of these factors at different times in different contexts.

8.5 CONCLUSION

In sum, analytical frameworks that cannot be obviously operationalised are of limited value as guides to policymaking and practice, but doing away with analytical frameworks altogether is not an option. However, in no scientific domain would theoretical models, as sophisticated and empirically-supported as they might be, be put to use without appropriate research and development.¹⁰⁰ The design of valid analytical frameworks which are fit for operational and strategic purpose remains a neglected endeavour, yet much progress in counterterrorism rests on its success.

99 Bouhana, "Comment: Analysing Lone-Actor Terrorism In Context."

100 Bouhana, "Learning from Crime Prevention: Foundations of a Systemist Evaluation Framework for Online Influence Activities."

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