

PRIME

Preventing, Interdicting and Mitigating Extremism

D5.1

Lone Actor Radicalisation Data Inventory
Public Version

WP 5 – Events Scripting

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Table of contents

Table of contents	3
Keywords	4
Acronyms	4
1. Introduction	5
1.1 Context.....	5
1.2 Deliverable objectives.....	6
2. Analytical approach	8
3. Data collection activities.....	11
3.1 SME Interviews	11
3.2 Large-N dataset.....	16
3.3 Medium-N dataset.....	18
3.4 Small-N dataset.....	25
3.4.1 German in-depth case studies.....	26
3.4.2 Danish in-depth case studies.....	27
3.4.3 Comparison cases	28
4. Early observations	29
5. Conclusions and future steps	30
5.1 Limitations of the research.....	30
5.2 Next steps: Scripting	31
6. Bibliographical references	32
Appendix A – Large-N Codebook Added Radicalisation/Propensity Questions.....	33

Keywords

Lone actor terrorism; IVEE; radicalisation; susceptibility to social selection; radicalising settings; radicalising agents; relational pathways; exposure; social ecology

Acronyms

Acronyms	Definitions
AaU	Aarhus University
DoW	Description of Work
DNI	Data Needs Inventory
HUJI	Hebrew University Jerusalem
IVEE	Individual Vulnerability, Exposure, Emergence
LAE	Lone Actor Extremist
LAEE	Lone Actor Extremist Event
RAF	Risk Analysis Framework
SME	Subject Matter Expert
UCL	University College London
UoL	University of Leiden

1. Introduction

1.1 Context

PReventing, Interdicting and Mitigating Extremist events (PRIME) is a collaborative research project funded under the European Union's Seventh Framework Programme (FP7). PRIME started on 1 May 2014 and is slated to run for 36 months.

PRIME sets out to improve our understanding of lone actor terrorism and to inform the design of social and physical countermeasures for the prevention of lone-actor radicalisation, the disruption of lone-actor terrorist plots, and the mitigation of terrorist attacks carried out by lone extremists. In this endeavour, PRIME adopts a multidisciplinary approach, which combines formal modelling techniques drawn from security engineering with relevant expertise from the ecological, social, behavioural and criminological sciences. The end-product will be a decision-support tool for end-users whose remit is to deal with the lone actor terrorism threat.

PRIME's research activities involve a range of social scientific research methodologies for the purpose of collecting empirical data needed to produce scripts (integrated script and subscripts) of lone-actor extremist events (LAEE) and related analytical products. The ultimate aim of these combined products is to enable the identification of 'pinch points', where interventions (i.e. countermeasures) can be implemented to prevent, disrupt or mitigate lone-actor terrorist activity.

PRIME seeks to go beyond the state of the art in the study of lone actor extremism in a number of ways: firstly, by modelling factors, processes and indicators associated with LAEEs at several levels of analysis, and, secondly, by developing for this purpose a more rigorous theoretical and analytical approach than has heretofore been used in this domain to produce scripts and explanations of LAEEs.

To achieve these objectives, PRIME research activities must include the collection of suitable empirical data. As described in deliverables 3.1 and 3.2, the PRIME project relies on a Risk Analysis Framework (RAF Matrix, see Figure 1 below) that divides the pre-attack process into three phases: 'radicalisation', 'attack preparation' and the 'attack' itself. Collecting data relevant to each of these phases has been allocated to different partners within the PRIME consortium, with the ultimate aim of feeding their work into an integrated script of a lone actor extremist event. Within this broader effort, the AaU team is responsible for the radicalisation subscript and related analytical products.

1.2 Deliverable objectives

The objective of this report is to present the approach adopted by the AaU team in studying processes of lone actor radicalisation, including its benefits and limitations; to provide a detailed description of the data collection activities carried out so far, as well as activities which remain to be completed; and, to discuss expected outcomes.

In line with the Description of Work, this data inventory refers where applicable to the levels of analysis identified in the PRIME RAF. Based on the RAF, the Data Needs Inventory (DNI; D3.2) identified specific requirements for data collection and types of data relevant for the project. Where meaningful, the report refers to and further elaborates upon the DNI, while describing how the AaU teams has worked to meet the data needs set out in the DNI.

The 'individual', 'situational', 'social ecological' and 'systemic' levels of analysis set out in the RAF each focus on separate but interrelated aspects of a lone actor extremist event. As Figure 1 illustrates, while each of these levels of analysis is relevant to the processes involved in LAEEs, their relative importance is likely to vary depending on the phase of the process being studied. The phase of radicalisation involves and touches upon all four levels of analysis, but it was expected at the outset, and indeed turned out to be the case, that data collection would be required to focus on some levels of analysis over others, given analytical and practical constraints.

Figure 1. Risk Analysis Matrix¹

		Phase of Event		
		Radicalisation	Attack Preparation	Attack
Level of Analysis	Individual	Susceptibility to moral change Susceptibility to social selection Susceptibility to self-selection	Social, physical and cognitive resources Susceptibility to social and self-selection	Social, physical and cognitive resources
	Situational	Exposure to radicalising settings Radicalising agents Radicalising teachings Social monitoring context	Opportunity structure Moral context Perception of action alternative Perception of capability (risk) Emergence of motivation	Opportunity structure Moral context Perception of action alternative Perception of capability (risk) Maintenance of motivation
	Social Ecological	Emergence and maintenance of radicalising settings	Emergence and maintenance of opportunity structure	Emergence and maintenance of opportunity structure
	Systemic	Emergence and maintenance of radicalisation-supportive social ecologies Emergence of social selection processes	Emergence and maintenance of opportunity-supportive social ecologies Emergence of social selection processes	Emergence and maintenance of opportunity-supportive social ecologies

¹ The darker the shading of the cell, the higher the likelihood of capturing data relevant to the factors and processes it contains.

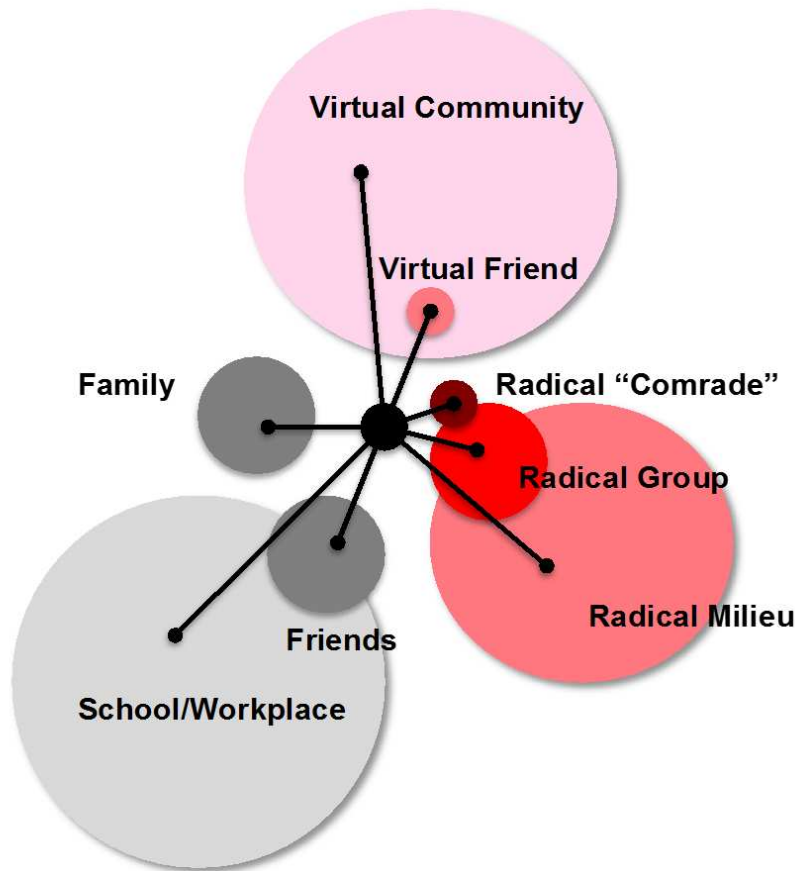
2. Analytical approach

The purpose of the AaU team's work within Work Package 5 (WP5; 'Event Scripting') is to contribute to the production of a subscript of the radicalisation phase of the lone actor extremist events, which would be relevant across different geographical contexts and types of attacks, as well as to produce related analytical products, such as in-depth case studies. Informed by the IVEE (Individual Vulnerability, Exposure, Emergence; Bouhana & Wikström, 2011) meta-model of radicalisation, which underpins the radicalisation section of the Risk Analysis Matrix (see Figure 1 above and D3.1), the work of the AaU team has focused on studying the interaction of individual characteristics, social settings and social relations and their changes over time in the process of lone actor extremist radicalisation.

Arguing that radicalisation involves a transformation of relationships which entails a sequence of shifts between relational constellations driven by dynamics of interaction, the AaU team adopted a relational approach that focuses on the way individuals interact with radicalising agents and particular radical milieus and settings, while at the same time seeking to identify individual susceptibility and selection factors and processes that influence exposure to these settings and agents.

Informed by this analytical approach, the AaU team developed a framework to guide data collection (see Figure 2 below), which operationalizes the interaction of individuals with radicalising settings and radicalising agents by charting a relational field comprised of three main sectors (or sets of relationships) that, in turn, are divided according to the closeness and duration of these relationships:

1. **The personal social environment:** family relationships; friendship groups; relations at school, college, or workplace.
2. **Face-to-face relationships with radicalising agents and direct contact with radicalising settings:** close relationships with a radical mentor or comrade; ties with a smaller radical group; ties with a larger radical milieu or movement.
3. **Virtual radicalising settings:** abstract ties with a wider virtual community; direct interaction with another person on the internet; belonging to a virtual group (online forum) that interacts regularly over a prolonged period of time.

Figure 2. Relational field of radicalising settings and radicalising agents

Given that both the IVEE meta-model and the Risk Analysis Matrix envision radicalisation as a dynamic process, the AaU analytical approach stresses the importance of the time dimension. Radicalisation takes place as a gradual process involving a sequence of steps and transformations, and is shaped by mechanisms that are triggered at specific points in time, as well as in space. Moreover, settings and relational fields change over time, often significantly re-shaped by the process of radicalisation itself, so that interactions with these settings and their effects are time-specific.

As an analytical stance, this awareness of the critical role of relationships and of time calls for a methodological approach that meets a number of specific requirements regarding the types of data to be collected and the way this data should be organized and, eventually, modelled:

- 1) the data collected on LAEEs should be cross-country, cross-time and cross-event type;

- 2) data should be collected on the individual characteristics of LAEs, the settings implicated in their radicalisation, as well as on the relationships, and any change in their configuration over time, experienced by LAEs during their radicalisation;
- 3) these data should be sufficiently time-stamped to be ordered systematically onto a timeline, for the purpose of identifying patterns in the sequencing and interaction of factors and processes at different levels of analysis (e.g. individual and situational) in the process of LAE radicalisation; and
- 4) the data collected should, as much as possible, meet the needs of the scripting approach which underpins the PRIME project.

In line with the above and the analysis of data needs set out in D3.2, the AaU team's data collection in WP5 employs a multi-level research strategy, which complements the Large-N data collection effort managed by the UCL team. To date, data collection activities have focused (and continue to focus) on building medium-N and small-N (in-depth case studies) datasets, in order to refine understanding of the processes involved in lone actor radicalisation. The data collection strategy targets different levels of analysis, as well as different data sources, including open sources, (restricted) police files and court files, SME interviews, and interviews with LAEs.

D3.2 enumerates the various types of data which could be accessed to examine processes of radicalisation leading to LAEEs. With respect to the different datasets, the categories of data that have been accessed to date are:

- Large-N dataset
 - Open sources
- Medium-N dataset
 - Open sources
 - Unrestricted police files
 - Unrestricted court files (typically indictments and verdicts)
 - Interviews with SMEs (e.g. police investigators)
- Small-N dataset
 - Open sources

- Restricted police files and intelligence reports (testimonies, investigation reports, physical evidence, surveillance reports, internet search histories etc.)
- Court files (all evidence filed in court and transcripts of court proceedings)
- Interviews with case-relevant SMEs (e.g. police investigators)
- Interviews with convicted LAEs
- Informal conversations with community members
- Informal conversations with kin or relations of convicted LAEs

Concerning the medium-N dataset, the data collection undertaken suggests that it is indeed feasible to compile informative case descriptions based on open sources. Yet, while these sources allow us to unearth observational patterns in the radicalisation process and to identify typical trajectories, it also became clear early on that to study patterns of relationships and their interactions with radicalising settings and radicalising agents in some detail, in-depth case studies were indispensable.

In particular, combining various sources of data as well as data collection methods – e.g. court files, written testimonies, SME interviews, interviews with family members – has proven to be extremely valuable in reconstructing processes of LAE radicalisation in sufficient detail to allow for the examination of mechanisms of radicalisation. This in-depth approach should ultimately provide a complementary understanding of certain elements of the subscripts built from the medium-N dataset, and inform the development of the formal, integrated script built from the Large-N dataset.

3. Data collection activities

3.1 SME Interviews

SME interviews fulfilled several purposes in the data collection process. In addition to providing information on specific cases in the medium-N or the small-N datasets, they also served to gain more general insights into patterns of radicalisation from experts and practitioners working with security services or in the field of prevention and de-radicalisation. Data collection was divided into two phases. The first phase of interviews was conducted in Germany between December 2014 and July 2015 (16 interviews and 6 informal meetings with a total of 31 individuals). The second phase of interviews was conducted in Denmark between August 2015 and December 2015 (8

interviews and 2 informal meetings with a total of 12 individuals). More interviews were carried out in Germany than in Denmark, due to a difference in allocation of resources.

The choice of conducting SME interviews in Germany and Denmark reflects a number of considerations, some pragmatic and some theoretical.

Firstly, pre-established contacts with relevant police officers, ministry and municipality representatives, and security agency staff served as important gatekeepers facilitating further contacts and interview appointments, providing both opportunity and snowballing samples that were the research team's most efficient option, given the sensitivity of the topic and inherent time-constraints. Relying on known gatekeepers made setting up interview appointments with busy and possibly reticent counter-radicalisation SMEs substantially easier.

Secondly, beyond securing access, taking advantage of established contacts and collaborations also meant that interviews were conducted on a foundation of mutual trust, which ensured a higher degree of detail in the information and topics discussed during interviews.

Thirdly, selecting two countries made it possible to conduct interviews with much wider institutional coverage than would have been possible had the research team tried to maximise geographical spread. As it was, the AaU team was able to access interviewees cutting across institutional settings (police; municipalities; ministries; security agencies; correctional authorities; NGOs etc.) and across administrative levels (local vs. national, and in Germany regional). Hence, it was possible to conduct interviews with representatives from the same institutions or agencies, but across different organizational units.

Fourthly, Germany and Denmark are, arguably, more than countries of convenience, but offer access to a rich set of cases. Both countries have experienced a number of LAE attacks (attempted and successful). SMEs in both countries can claim, therefore, to have direct experience investigating and working to prevent and interdict LAE radicalisation. Furthermore, Germany and Denmark provide meaningful variations in terms of the general approach to counter-radicalisation policies and their implementation; Denmark presents a more comprehensive, coordinated multi-agency approach, while Germany displays greater internal, cross-regional variation.

Finally, Germany and Denmark were chosen as sites of data collection to match the selection criteria for the in-depth cases (see section 3.4 below), since interviews with German and Danish SMEs could also be used to obtain specific information on cases of LAE radicalisation for in-depth case study.

SMEs within Germany and Denmark were chosen to be approached according to the following criteria: 1) interviewees had practical knowledge of radicalisation processes and/or counter-radicalisation programmes in general, or 2) interviewees had specific practical knowledge of LAE cases (e.g. arresting officers; family members of convicted LAEs). Subordinate to these two key criteria, the interviewees approached had to represent a spectrum of government agencies and branches (e.g. police, municipalities, correctional authorities, civil society organizations, ministry departments etc.) at different administrative levels (local, regional, national), and they had to hold key positions vis-à-vis radicalisation prevention and interdiction efforts, so that they might serve as gatekeepers for further interviews.

Potential interviewees were contacted through e-mail or phone, and in some cases at events (workshops, conferences, strategy meetings, etc.) in which the AaU investigators participated. The vast majority of SMEs affiliated with the government contacted in both Germany and Denmark agreed to participate in formal interviews or more informal meetings (where conversations were not recorded). This high response rate can likely be credited to the reliance on pre-existing relationships for opportunity sampling. Unsurprisingly, the response rate for interviews with convicted LAEs and their family and friends was nowhere near as high.

A semi-structured interview schedule was developed by the principal investigators, allowing for some adjustments depending on the type of SMEs interviewed. A core list of questions, informed by the IVEE meta-model and the relational approach taken, addressed topics related to individual vulnerability and susceptibility to radicalisation; exposure to radicalising settings and agents; relational configurations and transformations of relational fields (online and offline); and experiences with concrete measures of radicalisation prevention, interdiction or mitigation. When relevant, interviewees were furthermore asked about their perception of similarities and differences between LAE radicalisation and the radicalisation of individuals associated with group-based attacks and plots. Broadly speaking the interview schedule mapped onto the timeline instrument developed to analyse the medium-N dataset (see Table 5 in section 3.3 below).

On a number of occasions, interviews were conducted as a group, to take advantage of the availability of several relevant interviewees at specific locations or institutions. For these interviews, a revised interview schedule was used that was more geared towards stimulating discussion and the exchange of views, as opposed to eliciting information associated with a specific LAE case.

Interviewees were briefed on the overall aim of the PRIME project, the specific aims of the interview, and the modalities of information gathering, handling and storage. Interviewees agreed to participate under condition of anonymity and were given the opportunity to review interview transcripts, when relevant.

Table 1 below provides a full list of the SME interviews carried out in Germany and Denmark.

Table 1 SME interviews in Germany and Denmark (Anonymised)

Interviews in Germany	
January 14, 2015	Interview with expert, LfV (internal intelligence), Germany
January 27, 2015	Interview with expert, LKA (criminal police, special branch), Germany
January 27, 2015	Group-interview with co-director and two employees of NGO working in the field of prevention, Germany
January 27, 2015	Interview with former officer at BfV (internal intelligence), Germany
January 28, 2015	Interview with expert, LfV (internal intelligence), Germany
February 6, 2015	Interview with director/practitioner of NGO working in the field of prevention, Germany
February 6, 2015	Interview with co-director of NGO working in the field of prevention, Germany
February 12, 2015	Interview with practitioner, NGO working in the field of prevention, Germany
February 12, 2015	Group-interview with officers/experts at LfV (internal intelligence), Germany
March 18, 2015	Interview with member of local crime-prevention council, Germany
March 19, 2015	Group-interview with officers/experts at LfV and LKA, Germany
March 19, 2015	Interview with expert at ministry of education/cultural affairs, Germany
March 19, 2015	Interview with expert at the state ministry of judicial affairs, Germany
March 19, 2015	Interview with practitioner, NGO, prevention of right wing-extremism, Germany

June 3, 2015	Interview with practitioner, NGO working the field of prevention, Germany
July 21, 2015	Group-interview with officers at LKA (criminal police, special branch), Germany
Interviews in Denmark	
August 18, 2015	Interview with member of, the Danish Security and Intelligence Service, Denmark
August 20 + 28, 2015	Interview with mentor within local de-radicalisation mentoring program, Denmark
August 24, 2015	Interview with police officer, crime prevention and de-radicalisation unit, Denmark
August 25, 2015	Interview with officer, local municipality, head of the radicalisation prevention section, Denmark
September 15, 2015	Group-interview, two police officers and public prosecutor, Denmark
September 30, 2015	Interview with local police officer working with radicalisation prevention, Denmark
October 7, 2015	Interview with radicalisation prevention workshop director, Denmark
November 20, 2015	Interview with academic working with local authorities on radicalisation prevention and interdiction, Denmark

In eight cases, formal interviews were not possible, and meetings took place in the form of informal or confidential conversations, which proved valuable in providing (unquotable) 'background' knowledge on processes of radicalisation or specific radicalising settings.

Details of these informal meetings are provided in Table 2.

Table 2 Informal/confidential conversations (Anonymised)

December 23, 2015	Meeting with former officer, state security police, Germany
December 23, 2015	Meeting with expert on Jihadism, state security police, Germany
February 5, 2015	Meeting with officer/expert on Salafism and Jihadism, state security police, Germany
February 26, 2015	Meeting with public administration officers coordinating major prevention initiative, Germany
March 20, 2015	Meeting with expert on Jihadism, ministry of the interior, Germany
April 12, 2015	Meeting with SME, NGO, prevention, Germany
November 19, 2015	Meeting with former employee, Danish Security and Intelligence Service, Denmark
November 20, 2015	Meeting with radicalisation mentor and program coordinator, Denmark

The interviews with SMEs carried out in Germany and Denmark were key in consolidating the (theoretically-motivated) decision to focus analytical attention on the transformation of relationships and shifts between relational constellations, as central for our understanding of radicalisation processes in general, and LAE radicalisation in particular.

3.2 Large-N dataset

Work carried out in WP4 ('Meta-Script Technical Development') established that the formal, Bayesian Network-based scripting approach adopted by the project would require a (relatively) large dataset of LAEEs made up of case-based observations that could be coded with some degree of objectivity and reliability. To develop this dataset, the PRIME project adopted the open-source data collection protocol developed by Gill and colleagues (Gill, Horgan & Deckert 2012; Gill & Horgan 2014). The task of carrying out data collection for the Large-N was allocated to the UCL team. That work involved updating the existing database of lone actors assembled by Gill and colleagues, which, at the time the PRIME project began, contained 119 lone actors who engaged in or planned to engage in terrorism in the United States and Europe, and were convicted

for, or died in, the commission of their offence between 1990 and 2011 (Gill et al. 2014).

The original database contained both individuals who committed their offence autonomously, with or without links to an organisation, and isolated dyads, which are pairs of individuals operating independently of a group. That original dataset contained 185 variables. Independent coders collectively spent 5500 hours working on data collection and coding. To qualify for inclusion, each observation had to be recorded by three independent coders, then results reconciled in two stages (coder A with coder B, then coders AB with C). Most of the material was sourced using LexisNexis (e.g. media reports, scholarly articles, published biographies), and therefore qualifies as open source.

At the start of the PRIME project, all new LAEs that emerged in 2012, 2013 and 2014 were added to the database, while, to conform with the definitional requirements of PRIME (see D3.1), dyads were removed from the original database (n=19). Likewise, cases were removed from the original dataset if 1) the individual was part of a cell; 2) they were arrested for non-attack related behaviours (e.g. dissemination of publications); 3) they were involved in attacks with no ideological motivation; 4) their arrest involved an FBI sting operation; and 5) the individual was not convicted. This led to the removal of a further 24 cases from the original Gill et al dataset. Taking updates up to 2014 into account, this produced a dataset of 111 cases which fit the PRIME definition requirements. The countries represented in the large-N dataset are the US, UK, Australia, Norway, The Netherlands, Czechoslovakia, Denmark, Sweden, Poland, France, and Germany.

Additionally, cases from 2000 onwards were re-examined for new information that might have come to light in open sources since the initial dataset was built. Furthermore, non-UK European cases, where the lack of language expertise in the original data collection may have hindered the original coding effort, were recoded. This particular effort is ongoing.

Two additional, significant data collection endeavours are still in progress at the time of writing this deliverable. The first involves coding all lone actors active in 2015 (and some leftover cases from 2014). It is anticipated that this will add around 20 new cases to the dataset (a definite number cannot be stated until each actor has been evaluated to make sure they fit the project's definitional requirements).

The second data collection effort involves coding all existing cases in the dataset with a new set of questions produced to suit PRIME's data needs. This increases the number of variables from the original dataset by over 30%. In particular, questions related to the radicalisation and attack preparation phases of LAEEs have been expanded. This addition of new variables to the Large-N codebook was closely informed by the data

collection and preliminary analyses carried out by the subscript teams (AaU, UoL, HUJI) on the medium-N and small-N datasets, which is why this effort did not get under way practically until the project mid-point and the Reassessment of Data Needs milestone (MS10).

Using a Bayesian Network approach to analyse the Large-N dataset and produce an integrated script requires that the analyst choose which variables to input into the network. The purpose of the subscripting activity and associated analytical work carried out by the AaU, UoL and HUJI teams is to provide an empirical basis to inform those choices (see D3.2).

The list of questions relative to radicalisation (i.e. propensity development; see D3.1) added to the original Gill codebook can be found in Appendix A of this report.

3.3 Medium-N dataset

In an effort to increase the external validity of the radicalisation-related analytical products coming out of WP5, and in line with the PRIME DNI (D3.2), the AaU team assembled a medium-N dataset of cases representing different geographical contexts (US, Europe, Australia and the Middle East), perpetrator characteristics (political/religious orientation, gender) and attack outcomes (successful attack/failed attack). At the same time, cases were selected on the basis of the richness of the data available, with particular attention to information on individual characteristics, settings of radicalisation, and LAE relationships and their transformation over time.

With these criteria in mind, 20 cases were identified from the large-N dataset of LAEEs (see section 3.2 above). The selection of cases for the radicalisation Medium-N dataset was achieved by: 1) selecting from the dataset's codebook those items (i.e. variables) most relevant to the scripting of the LAE radicalisation process; 2) estimating the amount of data available on these items, both in the existing dataset and from additional sources, and retaining the most data-rich cases; and 3) ensuring variation in terms of perpetrator characteristics and attack type.

The medium-N dataset was developed with the intention to address some of the limitations of the large-N dataset, notably the relative paucity of data on this particular phase of LAEEs. It also sought to address geographical bias in the original dataset (overrepresentation of US and UK cases) and the time-lag vis-à-vis the number of recent Islamist lone actor extremist events in Europe carried out by former foreign fighters in Syria and Iraq or individuals who expressed support for Islamic State (i.e. the period between the fall of 2014 and the spring of 2015). While this time-lag is also being addressed by the work of the UCL team to expand the large-N database, this work is still in progress at the time of writing this deliverable.

In order to begin to address some of these biases, cases were added in the medium-N dataset representing a wider geographical selection, including five recent, prominent cases from continental Europe, Canada, and Australia, which were not in the original Gill et al. dataset.

This selection was achieved in consultation with the other subscript teams involved in WP5 (UoL and HUJI). Also included for comparative purposes (i.e. checks on the generalizability of the radicalisation subscript) were a number of cases involving extremists who did not qualify as lone actors by PRIME's criteria (i.e. individuals with known 'command and control' links), and on which sufficiently rich information was available, largely due to the high-profile nature of the attacks.

The final list of Medium-N cases is provided in Table 3 below.

Table 3 Medium-N Dataset Cases

Cases selected from the Gill et al. database					
No	Name	Sex	Country	Year	Ideology
1	Clayton Lee Waagner	M	USA	2001	Anti-abortion
2	Timothy James McVeigh	M	USA	1995	Anti-gov't
3	Taimour Abdulwahab	M	Sweden	2010	Islamist
4	Mohammed Bouyeri	M	Holland	2004	Islamist
5	Volkert van der Graaf	M	Holland	2002	An. Rights
6	Abdulhakim Muhammad	M	USA	2009	Islamist
7	Brunon Kwiecien	M	Poland	2012	Right-wing
8	Nicky Raymond Reilly	M	UK	2008	Islamist
9	David Copeland	M	UK	1999	Right-wing
10	Martyn Gilleard	M	UK	2008	Right-wing
11	Anders Behring Breivik	M	Norway	2011	Right-wing
12	Richard Baumhammers	M	USA	2000	Right-wing
13	John Salvi, III	M	USA	1994	Anti-abortion
14	Rachel Shannon	F	USA	1993	Anti-abortion
15	Faisal Shahzad	M	Pak/USA	2009	Islamist

16	Richard C. Reid	M	UK/USA	2001	Islamist
17	Mohamed Merah	M	France	2012	Islamist
18	Farouk Abdulmuttalab	M	USA/UK	2009	Islamist
19	Roshonara Choudhry	F	UK	2010	Islamist
20	Arid Uka	M	Germany	2011	Islamist
Recent Cases (Post 2013)					
21	Omar Abdel Hamid El-Hussein	M	Denmark	2015	Islamist
22	Mehdi Nemmouche	M	Belgium	2014	Islamist
23	Michael Zehaf-Bibeau	M	Canada	2014	Islamist
24	Martin Rouleau Couture	M	Canada	2014	Islamist
25	Man Haron Monis	M	Australia	2014	Islamist
Comparative Cases (Actors Not Qualifying As 'Lone')					
26	Saïd and Chérif Kouachi	M	France	2015	Islamist
27	Amedy Coulibaly	M	France	2015	Islamist
28	Tamerlan and Dzhokhar Tsarnaev	M	USA	2013	Islamist
29	M. Adebolajo and M. Adebowale	M	UK	2013	Islamist

The data collection and data analysis on the medium-N sample was broken down into several steps. First, open source data were collected systematically by searching online newspaper and newswire databases. English language material was gathered through LexisNexis and online Google searches. National newspaper resources were also exploited when the principal investigators or research assistants mastered the language (i.e. German, Danish, Swedish, Norwegian). Standardized search strings were constructed using the name/nickname of the individual lone actor, combined with a number of truncated statements like 'radicali*', 'relation*', and so on. Where available, information from court files and police files was accessed. The number of pages of open source material processed per case ranged between 50 and 200.

The collected data was then coded and rendered visually accessible using a codebook complemented by an Excel timeline template developed by the AaU team, resulting in 25 (+4) case-specific displays, which provide a detailed overview of the case across time.

The codebook used to systematically code the data material was constructed by combining deductive and inductive logic. The starting point of the codebook was a list

of radicalisation-relevant items selected from the Gill et al. codebook. These were supplemented by a number of items and dimensions derived from the IVEE radicalisation meta-model. Inductively, items were added and revised following initial pilot-testing of the codebook on three cases. The codebook consists of 8 main dimensions, each containing a number of sub-items. Coding categories are detailed in Table 4.

Table 4 Medium-N Dataset Codebook Coding Categories

<p>Family Relations / Friendships</p>	<p>Family situation: Relation to parents/siblings, death of parent/sibling, divorce of parents, changes in relations (estrangement, deterioration/improvement).</p> <p>Religious/political upbringing: family members practicing (e.g. Muslims/Christians). Family members involved in criminal or political activities</p> <p>Marital status: Marriage, divorce, children; spouse involved in political activism/wider movement</p> <p>Friendship Relations: Relations with friends, schoolmates, cliques</p> <p>Place of living, hangouts: Specify settings and environments in which life and relations take place</p>
<p>Education and Work</p>	<p>Career: Start/change/end school, university, military service, work; unemployment</p> <p>Performance and workplace-relations: Sudden drop in performance, work-related stress, conflicts at school or workplace (mobbing, fights, deviant behavior, discipline issues)</p> <p>Volunteer/Charity work: Volunteer work in social associations/charities; Membership in sport/social associations</p> <p>Financial Situation: Wealthy, own income or supported by family, financial problems</p>
<p>Travel</p>	<p>Travel, Migration</p>
<p>Personal / Psychological Issues</p>	<p>Personality traits: e.g. weak-minded, withdrawn, dreamer, angry, aggressive, low tolerance, strong minded, narcissistic, loner, weak/strong social skills, antisocial behavior, intolerance of plurality, lack of empathy (cognitive/mental risk factors)</p> <p>Psych./mental health issues: Depression, diagnosed disorders</p> <p>Experiences of marginalization, discrimination, victimization: e.g. mobbing, social marginalization, assault, verbal abuse,</p>

	<p>physical abuse, sexual abuse, betrayal by reference persons</p> <p>Behavior: aggressive, violent, provoking/disrespect towards authorities</p> <p>Criminal behavior: Criminal offenses, sentences, imprisonment</p> <p>Substance abuse</p>
<p>Relationships with religious, political, and/or militant activists or groups</p>	<p>Contacts or encounters with political/religious/militant activists: Meeting or establishing contact. Previous social ties through friendship or family relations (spouse/family member active in movement). Proactive efforts to establish contact? Or chance-encounter? Setting and environment of encounter.</p> <p>Personal relationships with political/religious/militant activists: Friendships, mentor-mentoree, leader-follower relation. Changes in relationships (growing close, estrangement). Later: mentor-role towards others? Setting and environment of interactions.</p> <p>Joining/Participating in religious/political/radical milieu or movement: frequenting mosques or meeting places, participating in demonstrations or gatherings. Attempts to recruit others to participate. Setting and environment of milieu/meetings. Specify: Claimed link/relation to movement.</p> <p>Membership in a religious/political/militant group or organization: becoming involved with or becoming a member of a group or organization. Specific function or status within the organization or group (changes). Participating in meetings and group-activities. Attempts to recruit others to join group. Setting and environment of group meetings and activities. Specify: Claimed link to group</p> <p>Link/relation to foreign or domestic terrorist organization: Support in procuring weapons/explosives/funding. Training. Command and control relation. Setting and environment of interaction. Specify: Claimed link.</p>
<p>Online and media-related activities and relations</p>	<p>Exposure to and consumption of religious/political/radical contents: teachings, media on the internet or via other sources. Active research for and consumption of teachings, media, radical "propaganda". Obsessive searching and consumption (time)</p> <p>Setting and environment of exposure/seeking; alone or in company?</p> <p>Virtual interaction with wider movement or network (virtual community): Joining forums/platforms, posting online-content</p>

	<p>to an abstract audience/wider group. Obsessive? Setting and environment.</p> <p>Personal virtual relations with online-friends: Contact with online activists and friends, sharing content, communicating/interacting via e-mails or chat-forums. Specify setting and environment.</p> <p>Procure or exchange of directly violence-related contents (preparation): Bomb manuals, training manuals, target selection</p>
<p>Political/religious/radical beliefs</p>	<p>Indications of religious/political orientation: General orientation, changes (intensifying/radicalising/de-radicalising) beliefs. Reports on verbal statements, discussions, reactions to certain situations. Changes in daily behavior that indicates orientation (rejecting certain forms of food, interaction with opposite sex, etc.). Changes in appearance/attire indicating a change in orientation (clothing, beard/haircuts associated with a certain orientation). Political or religious identity.</p> <p>Indications of radical/violence-related beliefs: Statements indicating enmity towards specific groups. De-valuation and de-humanization of groups. Justification of violence. Approval of violent acts or organizations. Radical identity.</p> <p>Writings/pamphlets: Produce own propaganda, political/religious texts/pamphlets.</p>
<p>Political / religious / radical actions</p>	<p>Participation in political/religious activities: religious services, study groups, discussion-groups, meetings, demonstrations, proselytism. Donating or collecting money for political/religious cause. Specify setting and environment.</p> <p>Participation in radical/militant and violent actions: Participation in militant demonstrations/street battles, confrontations with the police or political opponents, participation in acts of symbolic violence/sabotage/vandalism. Participation in assaults against groups/targets seen as "enemies". Specify setting and environment.</p> <p>Military training: Participating in domestic training activities. Receiving military training abroad. Specify setting and environment.</p> <p>Procure weapons or explosives</p> <p>Attack Preparation (Logistics)</p> <p>Participation in terrorist attacks/irregular warfare: Abroad or domestic. Specify setting and environment.</p>

	Experiences of persecution/arrest/imprisonment/extradition/exile as a result of political/militant activism
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The dimensions listed in the codebook were combined with a timeline, so that each piece of data containing a timestamp could be plotted onto the timeline of the radicalisation process. The codebook, therefore, was expanded into a spreadsheet where condensed information could be stored according to dimensions of radicalisation as well as timing. This procedure resulted in cross-time matrix displays (Miles & Huberman 1994), which in a condensed and visual format organise rich data and aid the identification of patterns of LAE radicalisation, e.g. recurrent patterns of transformations of individuals’ relational fields across time.

Research assistants under supervision of the two investigators carried out the bulk of the coding. The first cross-time matrix case displays produced by research assistants were discussed with the primary investigators in order to strengthen inter-coder reliability. Practically, the coding was carried out by applying colour-codes to the case material, with each colour representing a dimension of the codebook. Each piece of information was then condensed into a descriptive statement located along the timeline in the spreadsheet. In order to be able to go back to the original information, each entry in the spreadsheet was given a reference to the case name and page number.

A simplified version of the timeline instrument, in which the various steps within the radicalisation process are rendered visually accessible, is provided in Table 5 below (see D3.2 "Data Needs Inventory" Appendix B for a full copy of the spreadsheet template). The starting point is the LAE attack, from which the timeline runs backwards (down to -5 years), allowing researchers to code information according to the codebook and to locate it within a time-matrix.

Table 5 LAE Radicalisation Medium-N Timeline Instrument (Simplified)

Lone actor [Name] timeline								
	Background	Previous	Y-5	Y-4	Y-3	Y-2	Y-1	Event
Family relations								
Education								
Personal/Psych issues								
Relationships with radical activists								
Radicalizing Settings								
Online activities and relations								

Radical beliefs								
Radical actions								

3.4 Small-N dataset

The medium-N dataset of lone actor extremists is notably intended to allow for the identification of key causal mechanisms of lone actor extremist radicalisation, and associated indicators, in order to inform data collection and analytical activities associated with the production of the Bayesian Network-based script, as well as to capture qualitative variance in pathways and settings by including different types of attackers and geographical regions.

In order to be able to examine relational fields and patterns of interaction with radicalising settings and agents in greater detail, and to refine our understanding of causal mechanisms, six in-depth case studies were identified. These cases were drawn from the full population of terrorism-related cases which have gone to court in Germany and Denmark within the past 15 years. Selection was based on relevance (i.e. fit with the PRIME inclusion criteria), as well as on the availability of restricted material and the feasibility of conducting interviews with LAEs. Thus, six in-depth cases were selected, 3 German and 3 Danish. Through existing contacts with authorities, restricted materials such as court proceedings, police investigation files, transcripts of police interrogations, and testimonies were collected for each of these cases. In addition, interviews with convicted LAEs, family members and community members, insiders of local radicalising settings, as well as SMEs were conducted where possible.

The decision to restrict cases to Germany and Denmark rests upon a number of reasons. Pragmatically, locating, selecting, coding and systematically analysing thousands of pages of court material, testimonies, police reports, and so on, requires local language proficiency. Using translators would be impractical and financially prohibitive. Hence, the country case selection reflects the nationality and mother-tongue of the primary investigators. Furthermore, obtaining formal access to restricted material from high-profile terrorist court cases is a long, complicated and bureaucratic procedure, which requires a) knowledge of regulations which govern public access to documents, and b) continuous interaction and negotiation with authorities regarding terms of access, and so on. This procedure was only made possible by existing contacts and established trust between the investigators and relevant German and Danish authorities. Finally, it was felt that the evident limitations posed by drawing the in-depth cases from only two European countries would be counter-balanced by the availability of the large- and medium-N datasets, which offered more geographical variation. Since the purpose of the in-depth case studies was to facilitate the detailed examination of the nature of relational fields, patterns of exposure to radicalising

settings and radicalising agents in the radicalisation process of LAEs, the trade-off between data depth and restricted geographical coverage was deemed acceptable.

3.4.1 German in-depth case studies

German LAEs were selected for in-depth case study from a comprehensive list of all individuals convicted for terrorism-related crimes in Germany during the past 15 years (up to December 2014). The list, which included more than 60 individuals, was generated based on information provided by the Federal General Prosecutor's office, as well as from research based on open sources.

From that list, 4 cases were selected, on the basis that they corresponded to the definitional requirements set out in the PRIME Risk Analysis Framework (D3.1) or because they provided an opportunity for in-depth comparison. Two individuals who had carried out a terrorist attack were selected, one who fit the strict PRIME definition of LAEs and one who had been part of an isolated dyad. Two other cases of LAEs were included which involved criminal convictions for extremist propaganda and supporting terrorist organizations abroad.

Access to court and police documents was requested and granted for all four cases selected from the overall list. Notably, the following material was accessed: 1) the comprehensive court files on the most relevant LAE case in Germany (Frankfurt, 2011), representing a total of more than 8000 pages of documents; and 2) partial documentation (between 200 and 600 pages each) on the other 3 cases.

All four LAEs were contacted by mail at the start of the project: two of them in prison, and the other two, who had already served their sentences, at home. Two of the four responded positively to requests for an interview, one who had carried out a terrorist attack and one who had been sentenced for terrorist online activities. Prison authorities, as well as officers in charge at the Ministry of Judicial Affairs, were then contacted to file formal requests to conduct an interview in prison.

In the end, three in-depth interviews of a total of more than ten hours were carried out with two LAEs.

- Name Withheld, two interviews on April 21st, 2015 and July 21st, 2015, 3 ½ hours each.
- Name Withheld, one interview on August 12th, 2015, 3 hours.

Out of the initial four cases chosen, 3 were retained for inclusion, 2 because interviews were carried and the third because, although an interview was declined, extremely rich data was available through documentary sources.

To facilitate the systematic analysis of large amounts of in-depth case study data, a template was developed to compile synopses, which summarizes all relevant information in an accessible manner and allowed the researchers to quickly transfer this information into a timeline or database format. This template was also adopted to organise data on the Danish case studies.

3.4.2 Danish in-depth case studies

In-depth cases of Danish LAEs were selected from a comprehensive list of all individuals convicted for terrorism-related crimes in Denmark during the past 15 years (up to December 2014). The list, which included more than 40 individuals, was created based on information provided by the general prosecutor's office, as well as from open source research.

From that list, 4 cases were selected on the basis that they corresponded to the definitional requirements set out in the PRIME Risk Analysis Framework (D3.1) or because they provided opportunities for in-depth comparison. In two of these cases, the individuals carried out attacks. In one of these cases, the attacker was killed during the attack, while in the other case the perpetrator was arrested and later convicted. In the two other cases, individuals were convicted for planning and attempting attacks. One of these cases involved an isolated dyad.

Relevant police departments and public prosecutors were contacted regarding access to police documents, evidence presented in court, and so on, on these four cases. Full access was provided to the researchers in three of the four cases, which was a first in Denmark. Access was denied on one case, as trial was still pending for individuals held in custody in relation to the case.

The material obtained on the three remaining Danish cases was substantial and very detailed, comprising approximately more than 17,000 pages in total:

- The comprehensive archive of police files, court files and security service assessment reports from a relevant LAE case in Denmark that led to conviction in court (8000 pages).
- The comprehensive archive of police files and court files from a relevant LAE case in Denmark that led to conviction in court (6000 pages).
- The comprehensive archive of police files, court files and security service surveillance reports on case of radicalisation in an isolated dyad in Denmark (3000 pages).

The convicted individuals who were serving prison sentences in Denmark (in one case the perpetrator was of Belgian descent, and is serving his sentence in Belgium) were contacted through the Danish Prison Board regarding the possibility of conducting interviews. One declined, while one gave a positive response. Arrangements to set up this interview are ongoing and dependent on final approval from the Danish Prison Board.

3.4.3 Comparison cases

Another set of cases was selected for further comparison, with the aim to contrast the mechanisms of radicalisation of lone actors to a number of group-based radicalisation cases, which the investigators have worked on previously. It was felt that they might help investigators reflect of the uniqueness (if any) of factors and mechanisms of lone actor radicalisation.

All cases retained for in-depth case study are listed in Table 6.

Table 6 Small-N dataset / In-depth case studies (Anonymised)

German cases					
No	Name	Sex	Country	Year	Ideology
1	Withheld	M	Germany	2011	Islamist
2	Withheld	M	Germany	2006	Islamist
3	Withheld	M	Germany	2009	Islamist
Danish cases					
4	Withheld	M	Denmark	2012	Islamist
5	Withheld	M	Denmark	2010	Islamist
6	Withheld	M	Denmark	2010	Islamist
Cases for comparison: Islamist and right-wing radicalisation in group-context					
7	Withheld	M	Germany	2007	Islamist
8	Withheld	M	Germany	2003	Right wing
9	Withheld	M	Germany	2011	Islamist

4. Early observations

Any observations at this point in time can only be taken as highly tentative and preliminary.

What we may be able to suggest at this point is, firstly, that a social ecological approach, with particular attention to the role social relations in human moral development (i.e. moral socialisation), seems relevant to an understanding of processes of lone actor radicalisation. Perhaps contrary to popular notions of 'lone wolves', a majority of LAEs seem to interact quite closely with radicalising social settings and radicalising agents at various stages of the radicalisation process. Thus, it is likely that the analysis of patterns of exposure to radicalising settings and interaction with different categories of social milieux can make an important contribution to the study of LAE radicalisation. This is not to say that lone actors do not constitute a distinct category of actors deserving study in their own right, but rather that rejecting wholesale knowledge of radicalisation processes gained from the study of group actors as irrelevant to our understanding of lone actors would be premature.

Secondly, different patterns of radicalisation seem to emerge tentatively from the medium-N data. Very much in line with our analytical approach, these different patterns of LAE radicalisation appear to differ precisely with respect to relational patterns and exposure to radicalising settings. In other words, LAEs vary with regards to the kind and intensity of their relationships to radicalising agents and milieux, and to what kind of exposure to radicalising settings occurs at what stage of the process, as well as with respect to the specific relational mechanisms at play. A tentative enumeration of patterns of LAE radicalisation could be termed, for example, "failed-joiner", "isolated seeker", and what may be called "peripheral drifter".

Thirdly, we also find that a relational perspective allows us to identify truly isolated patterns of radicalisation (i.e. whole trajectories or specific phases of isolated radicalisation within a trajectory). This may seem paradoxical, but it is important to consider the fact that isolation takes place as a social process that involves (and often is driven by) relations between an individual and his or her social environment, such as withdrawal, exclusion, and so on. Even isolated, lone actors remain essentially social actors.

5. Conclusions and future steps

5.1 Limitations of the research

The analytical approach adopted in WP5 involves the process tracing of lone actor extremist radicalisation and builds upon data triangulation involving large-N, medium-N, and small-N datasets, as well as the structured input of subject matter experts. As such, it offers significant contributions to the state-of-the-art with regards to previous research in this domain.

Nevertheless, limitations must be acknowledged.

1. The inherent limitations of data derived from open sources and media reports, while pervasive in this field of study, have to be taken into consideration. While sufficient data seems to be available to chart radicalisation timelines for most of the cases in the medium-N dataset, often these do not provide highly detailed information on factors and processes of interaction between LAEs and radicalising agents and radicalising settings – a key dimension of LAE radicalisation according to the PRIME RAF. Furthermore, information with respect to the timing of certain events is sometimes imprecise. Although information included in the medium-N database was, as much as possible, checked against multiple sources, at times a news story has included details of an LAE's activities which could not be cross-checked. Moreover, it is understood that media attention is selective and information published by news media, especially shortly after attacks, is often inaccurate, which is an issue in particular for very recent cases.

These shortcomings inherent in open-source research reinforce the need for in-depth case-studies, where our assessment of the availability and quality of data can be more positive. For all of the German cases, and most of the Danish cases, researchers were granted access to court and police files, which proved extremely rich in detail; it was also possible to conduct interviews with two of the three German LAEs, and eventually one of the Danish. Given the considerable barriers to obtaining formal access and conducting interviews in prison with offenders recently convicted, these data collection efforts have gone beyond what we had anticipated could be achieved within the time available.

Preliminary examination of these cases points to the importance of additional, dedicated research on radicalising settings (i.e. the social ecology of radicalisation). Police and court files (understandably) provide rich data on the individual offenders but much less on the social environments involved in their criminal development.

2. While PRIME aims to produce a model of lone actor radicalisation, which is not specific with regards to geographic context, attack outcome, ideology and time

period, the external validity of the scripts and associated analytical products produced by PRIME can only be limited. While our dataset and data collection activities are designed to provide for sufficient variation, the data material is biased towards North America and Western Europe. Furthermore, while a number of right-wing cases and single-issue cases are included, the bulk of cases, not least the newest and the in-depth ones, are Islamist in nature. These biases reflect current threat assessments by security services in the Western world, as testified by the outcome of the project's engagement activities with counter-terrorism professionals (see D2.6 "Context Analysis Report"). Finally, while our data includes cases of failed attacks and attempted attacks, the majority of cases are 'successful' attacks, as these provide the richest source of material. These biases in our data will have to be taken into account when generalizing from the eventual scripts.

3. Relative to the standard of research in this field, we would judge the internal validity of the script produced out of the described data – including the validity of our claims regarding the key factors and mechanisms implicated in LAE radicalisation – to be satisfactory, given that the research design entails data triangulation. Triangulation offers the opportunity to infer causal mechanisms from in-depth case studies, and to validate them against a medium-N and large-N dataset, and against the opinion of SMEs, including our Expert Advisory Board. Nevertheless, the lack of explicit control variables in our design – the impossibility of selecting non-LAE cases which match in terms of demographics, social ecological factors etc. – is a recognisable weakness.

However, it should be kept in mind that the purpose of WP5 (and PRIME more generally) is not to test a scientific theory of LAE events. Rather, it is to inform a technological process (script-building), which can then be validated and evaluated in terms of its efficiency. Nevertheless, this does impose limits on the claims that can be made subsequent to the analysis of the data described in this document.

5.2 Next steps: Scripting

Once the data collection activities described in this document are completed, we plan to use the medium-N and the small-N data, in collaboration with the UCL scripting team, to produce analytical products, notably in-depth case studies and qualitative radicalisation subscripsts, that will inform and complement the production of the formal, Bayesian Network-driven integrated script of LAEEs learned from the large-N dataset.

Eventually, the script and complementary analytical products, notably a list of 'pinch points', will be validated by soliciting feedback from relevant local and national level subject matter experts in Germany, Denmark, the US and the UK, notably.

6. Bibliographical references

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Appendix A – Large-N Codebook Added Radicalisation/Propensity Questions

1. Did the individual grow up in an abusive home (e.g. mother was victim of domestic abuse), but was not a victim of abusive himself or herself?
1 No
2 Yes
88 Unknown

2. Was the individual victim of physical abuse as a child?
1 No
2 Yes
88 Unknown
-If yes, please elaborate:

3. Was the individual victim of sexual abuse as a child?
1 No
2 Yes
88 Unknown
-If yes, please elaborate:

4. Was the individual a perpetrator of domestic abuse in adulthood (e.g. domestic abuser)?
1 No
2 Yes
88 Unknown
-If yes, please elaborate:

5. Was the individual a victim of bullying as a child or adolescent?
1 No
2 Yes
88 Unknown
-If yes, please elaborate:

6. Was the individual a victim of violence other than a domestic abuse or bullying as a child or adolescent:
1 No

2 [] Yes

88 [] Unknown

-If yes, please elaborate:

7. Was the individual raised in a household where one or more parent or guardian followed a religious practice?

1 [] No

2 [] Yes

88 [] Unknown

-If yes, indicate what religion did the household practice (indicate all that apply if the parents/guardians each practiced different religions)?

-If no, indicate whether

-The parents/guardians nominally belonged to a religious tradition, but did not follow religious practice

-The parents/guardians did not belong to any religious tradition

8. Did the individual undergo an experience of religious conversion at any time prior to the event?

1 [] No

2 [] Yes

88 [] Unknown

-If yes, to which religion did the individual convert (indicate all that apply if the individual converted more than once)?

-If yes, at what age did the conversion occur (indicate all that apply if the individual converted more than once)?

-If yes, is there evidence that the individual could not hold to the practical tenets of the new faith?

9. Was the individual ever thrown out of an educational environment as a child or adolescent (e.g. expelled from school)?

1 [] No

2 [] Yes

88 [] Unknown

-If yes, how old were they? What were the circumstances?

10. If the individual was imprisoned [Imprison]...

10a. How long were they incarcerated?

10b. In which establishment?

11. Was the individual raised by

- 1 Both parents
- 2 Only father
- 3 Only mother
- 4 Other relatives
- 5 In care

-If so, at what age were they taken into care?

12. Did the individual come from a household which could best be described as:

- 1 Disadvantaged/Unemployed
- 2 Disadvantaged/Working Class
- 3 Working Class
- 4 Lower Middle Class
- 5 Middle Class
- 6 Upper Middle Class or Above

-Provide Supporting Evidence:

13. Was the individual born in the country in which he or she carried out the attack?

- 1 No
- 2 Yes
- 88 Unknown

-If no, where were they born?

14. Was the individual brought up in the country in which he or she carried out the attack?

- 1 No
- 2 Yes
- 88 Unknown

-If no, where were they brought and when did they arrive in the country in which they carried out the attack?

15. Were the individual's parents or guardians born in the country in which the individual carried out the attack?

- 1 No
- 2 Yes
- 88 Unknown

-If no, where were they born (indicate both mother and father, if known) and when did they arrive in the country in which the individual carried out the attack?

16. Is there evidence to suggest a history of thrill- or sensation-seeking prior to the individual's involvement in radical activity?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

17. Is there evidence to suggest a history of low self-control or impulsivity prior to the individual's involvement in radical activity?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

18. Is there evidence to suggest a history of difficulties with anger management prior to the individual's involvement in radical activity?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

19. Is there evidence to suggest a history of inflexibility or inability to adapt to obstacles or challenges prior to the individual's involvement in radical activity?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

20. Is there evidence to suggest a history of self-isolation (social withdrawal) prior to the individual's involvement in radical activity?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

21. Is there evidence to suggest a history of self-aggrandizement or over-confidence prior to the individual's involvement in radical activity?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

22. Did the individual show signs of mental health issues short of a diagnosis of a mental illness?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

23. Did the individual need special care or attention as a child (e.g. school support) short of involvement by social services or social care?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

24. Is there a pattern of violent behaviour through early childhood/adolescent years (e.g. bullying behaviour at school) short of behaviour resulting in criminal conviction?

1 No

2 Yes

88 Unknown

- If yes, please elaborate:

25. **If** the individual interacted face-to-face with members of a wider network... [F2F]

25a. What was the intensity of this interaction:

1 Few, occasional interactions?

2 Regular interactions over time?

-Provide supporting evidence:

25b. Over what timespan did these interactions occur?

1 Days

2 Weeks

3 Years

26. **If** the individual interacted virtually with members of a wider network...
[VirtualInteract]

26a. What was the intensity of this interaction:

- 1 Few, occasional interactions?
- 2 Regular interactions over time?
- Provide Supporting Evidence:

26b. Over what timespan did these interactions occur?

- 1 Days
- 2 Weeks
- 3 Years

27. If the individual was previously a member of a wider network... [WiderNet]

27a. Did the individual take part in high-risk political activism on behalf of that network prior to the attack?

- 1 No
- 2 Yes
- 88 Unknown

27b. Did the individual take part in acts of political violence on behalf of that network prior to attack?

- 1 No
- 2 Yes
- 88 Unknown

27c. Did the individual leave the wider network prior to the attack?

- 1 No
- 2 Yes
- 88 Unknown

27d. How much time had elapsed between the individual's disengagement from the network and the attack?

- 1 Days
- 2 Weeks
- 3 Years

28. Was the individual a member of a small militant/activist group at any point in time?

- 1 No
- 2 Yes
- 88 Unknown

28a. Did the individual take part in high-risk political activism on behalf of the group prior to attack?

- 1 No
- 2 Yes

88 Unknown

28b. Did the individual take part in acts of political violence on behalf of the group prior to attack

1 No

2 Yes

88 Unknown

28c. Did the individual leave the wider network or smaller group prior to the attack?

1 No

2 Yes

88 Unknown

28d. How much time had elapsed between disengagement from the group and the attack?

1 Days

2 Weeks

3 Years

29. How much time elapsed between the first recorded exposure to the radicalizing ideology and the attack?

1 Less than 6 months

2 Less than 1 year

3 Less than 2 years

4 Less than 3 years

5 Less than 4 years

6 Less than 5 years

30. How was the first encounter/exposure to the radicalizing ideology brought about?

1 Through friends/family members already part of the movement/group

2 Through other acquaintances

3 Through active recruitment/outreach by radicalizing agent

4 Through chance exposure

5 The individual sought out the exposure

6 Other- please elaborate:

31. Did that first exposure/encounter take place online?

1 No

2 Yes

88 Unknown

-If yes, please elaborate:

32. Where did that first exposure/encounter take place, if not online?
-Describe the setting (e.g. bookstore, football pitch, pub):
- Indicate the town/neighbourhood in which the setting was located:
- Is that the town/neighbourhood in which the individual resided at the time?
33. Prior to that first exposure/encounter, was the individual in a situation of crisis (e.g. Family loss/break up? Failure in educational career? Unemployment? Prison? Migration to new country?)
- 1 No
- 2 Yes
- 88 Unknown
- If yes, please elaborate: