FINAL REPORT

A Behavioral Study of the Radicalization Trajectories of American "Homegrown" Al Qaeda-Inspired Terrorist Offenders.

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Contents

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EXECUTIVE SUMMARY

Purpose of Study: The purpose here is to develop a new approach to the assessment of individuals who are suspected of posing a risk to public safety or attempting to engage in criminal behaviors in support of terrorism at home or abroad. Our research provides compelling evidence that individuals who are in the process of becoming dangerously radicalized will exhibit overt and detectable behaviors that are somewhat predictable. The model differs from most assessment protocols currently in use by focusing on tracking tracking progressive radicalization through the use of behavioral indicators known to be associated with the doctrines of the belief system advocating violent extremism.

Evidence was drawn from the biographies of convicted American homegrown terrorism offenders motivated by the Salafi-jihadist belief system. The process view of radicalization may be applicable to other types of violent extremism, but the research does not support the argument for an ideology-blind assessment policy. It is the ideology and the behavioral changes and adaptations required by the Salafi-jihadist belief system that lends a predictable structure to the radicalization process. Further research will be required to determine if and how the model may be used to track violent White supremacists or anti-federalist sovereign-citizen extremists and recruits to other groups advocating terrorist action.

Key Findings: Becoming a jihadist terrorist is a life-style choice that is associated with overt behavioral changes. These behavioral signifiers are generally but not always apparent to bystanders, family or friends. Acculturation to extremist and violent action involves a process of identity formation. How long this takes varies greatly, but the American homegrown offenders in the study displayed regular patterns of overt behaviors that signified their newfound religiously-inspired extremist political beliefs and that pointed to progressive radicalization.

Most offenders in the study exhibited signs of progressing through all four phases of radicalization elaborated by the process model in a fairly predictable trajectory of radicalization. This progression took the offenders from learning about the extremist belief system to changing their life style and on to criminal action or to making plan for such action. Nevertheless, *none* of the behavioral indicators we examined was found in every biography. The finding underscores what other researchers have found: there is no uniform profile of jihadist terrorists.

Two particular triads of sequential behaviors proved particularly salient and frequent antecedents to criminal action.

- Pre-radicalization behaviors such as seeking out new religious authority followed by immersion with a group of peers—sometimes 2-3 individuals and sometimes larger groups—leading to expressions of a desire to take action following the prescriptions of the extremist belief system.
- Overt lifestyle changes characteristic of newfound extremist religious fervor (expressed, for example, by aggressive criticism of other Muslims) followed by immersion with extremist peers, and then expressions of a wish to take action.

The importance of real-life peer groups in driving further radicalization was highlighted by the finding that peer immersion nearly always preceded public expressions of a desire for action, either going abroad to fight or doing "something" at home, in the United States. These behaviors are assumed to be particular only to the homegrown terrorists who become radicalized while living in the United States. Not all American jihadists will fit the mold. Some arrive in the country already radicalized. A notable exception are women who often become radicalized privately and are more likely than male offenders to have been radicalized initially through online contacts. Traveling abroad to join a foreign terrorist group

is nearly always the first choice of action. Carrying out a domestic attack may become a default option if and when travel proves difficult—or after prompting by recruiters.

Methodology: Reducing ambiguity is vital in hypothesis testing. The NYPD model, developed by Mitchell D. Silber and Arvin Bhatt in 2007, was chosen as the basis for creating a typology of overt and detectable behavioral indicators of behaviors widely thought to be associated with extremism. Although well known, the utility of the NYPD model for assessing individual radicalization trajectories has never before been tested empirically.

Detailed forensic biographies were collected for 135 American jihadism-inspired homegrown terrorism offenders. A variety of public access documentation was used, e.g. court documents, online communications posted by the terrorist offenders, media profiles and interviews with family members. The subjects were drawn from a larger list of 351 offenders who have been convicted in U.S. courts or killed while engaging in a jihadist terrorist act since 2001. All were judged to have become radicalized while living in the United States. Demographic information was coded for all of the study subjects.

The study drew on previous work conducted by the PI on the role of internet-based propaganda and recruitment strategies on patterns of radicalization. From this research and based on the existing literature on radicalization, a list of 24 behavioral indicators commonly associated with radicalization was drawn up. Specific cues were linked to each of the behaviors associated with the model's four stages, from the initial explorative behavior (pre-radicalization) to criminal action (stage 4). Coders were trained to read the documentation for evidence of the behavioral cues assumed to be associated with radicalization, and instructed to enter the first date at which such behaviors were publicly observed. From this data, retrospective timelines for the radicalization trajectories of each subject were estimated. The timeline data were subjected to a simulation analysis to test for fit with the model expectations and to identify which behavioral cues proved to be most reliable. A timeline for radicalization was then calculated for the offenders.

Detailed Findings: It takes years to become a terrorist. Radicalization generally proceeds over the course of several years. Strikingly, the pace of the radicalization process has accelerated in recent years. Efficiency gains from the recruiters' exploitation of social media to direct new adherents as well as the Islamic State's settlement policy of taking in all volunteers both played a role in the acceleration of the radicalization process.

- The median was just over 4 years but excluding a handful of outliers who took a decade or more to make up their minds to "do something," the average radicalization trajectory was just over three years (38 months). Jihadists offenders arrested or denied abroad in 2015 were radicalized in two years or less.

The window of opportunity for preventive intervention is widest *before* an individual has embraced the radical belief system. A few individuals take a long time to decide to act but once an individual becomes involved with an extremist peer group or exhibit signs of advancing towards a greater commitment to the cause, radicalization generally speeds up.

- Setting aside the initial period of exploration of the extremist belief system that is characterized as pre-radicalization, the mean time to action was 6.25 months for the cohort of offenders who radicalized after 2010 compared to 15 months for the pre-2010 cohort. The timeline for radicalization also became more uniform. 90% of the offenders radicalized after 2010 took

between 4 to 16 months from the initial stage of embracing extremist ideology (stage 1) to making plans to commit an act of terrorism (start of stage 3).

The behavioral cues for progressive extremism elaborated by the model proved to work as expected in three-quarters of cases. A few indicators proved disappointing. Ideological rebellion and disengagement from education or work, for example, occurred frequently but randomly across the timelines for radicalization and therefore gave little indication of an individual's progression to radicalization.

- Fourteen (14) of the behavioral indicators occurred at the predicted point in the radicalization process. Five (5) indicators appeared as predicted in more than half of the trajectories analyzed.

The offenders often sought out like-minded individuals or created "pop-up" cells of co-believers around themselves by converting family members or friends to the cause. Online radicalization became far more prominent after 2010, but few individuals radicalize purely either online or offline.

- Among the offenders radicalized in 2010 and afterwards, half were initially radicalized though online contacts and the other half through offline connections with radicalized individuals. One (21%) out of four (76%) of the offenders who radicalized before 2010 were found to have initially become tuned on to extremism online.
- All subjects who radicalized in "a flash"—4 to 6 months—were drawn in by close friends or family.

Demographic profiles correlate strongly with the time it takes for the individual to become radicalized to to take action, and sometimes correlate also with the types of action that the radicalized individual pursues. Why these differences exist is unclear.

- Individuals who grew up in Muslim households radicalized more quickly than converts, taking half the time to be galvanized to take action.
- Women radicalized at a quicker pace than men, some taking as little as four months from first searching for information about jihadist doctrines to reaching the point of decisive action.
- Men with previous criminal records unrelated to terrorism took twice as long to "do something." Former criminals mostly engage in violent domestic attacks, perhaps because they do not have passports.

Women have become a new risk factor and are increasingly seeking to become active perpetrators of violent attacks. ISIL has been far more able than any previous terrorist organization in the jihadist umbrella to inspire women. Tashfeen Malik, the female San Bernardino assailant, may be indicative of a broader shift. As yet women typically engage in low-threshold activities, such as marrying a fighter they first met online or participating in what they call the "online jihad." They are often instrumental in the recruitment of men to commit violent offenses. The role of women as aggressors, supporters and facilitators of violent extremism is an area that should be an urgent priority for quick-response research and, possibly, be made a new focus for anti-terrorism prevention.

A great deal of attention has been given to the youthfulness of some of the homegrown offenders who have been inspired by ISIL but jihadist violent extremism is in fact not typically a teenage phenomenon. A noticeable trend towards younger offenders can be observed but offenders under 18 are nevertheless the exception.

- The median age for becoming radicalized was 22 within the larger study group and 21 in the smaller group. The majority of the offenders (53%) were between 20 and 29 years of age and 15% were over 30 when they radicalized.

The majority of homegrown jihadists radicalize between the ages of 18 and 29; an age at which there are few societal and institutional contact points for reaching the individuals, and no legal way to compel a radicalized individual to consent to monitoring or to participate in intervention programs aiming to changes their minds. The lack of a distinct demographic profile and the fact that despite growing in numbers terrorism remains a highly marginal phenomenon combine combine to complicate efforts to apply a public health model in anti-terrorism prevention.

Policy Recommendations: The evidence supports a number of recommendations with respect to the methods that law enforcement can marshal to better identify and track individuals who may be in the process of becoming dangerously radicalized and for how to better educate the public about the radicalization process:

1. A dynamic risk assessment protocol focused on tracing *progressive* extremism is feasible and may more reliably anticipate imminent risk of violent behavior than will unstructured protocols utilizing a list system.

   Assessment protocols should take a whole-life approach to the assessment of individuals. The Internet is a ubiquitous influence but it is rarely the sole or even the primary source of inspiration for the radicalizing individual. The radicalizing individuals rarely move on to violent action without real-life reinforcement from peers or mentors.

2. Focus on CVE programs on mobilizing families in the fight against violent extremism. Families are often a source of early warnings about risky behaviors but many families misinterpret the signs of growing radicalization or ignore the risk. Two (2) out of five (5) jihadist terrorism offenders come from Christian homes with little knowledge of Islam, and the families may misread extremist behavior as religiosity. Muslim families are often victimized by the extremist family member or misinterpret the changing behaviors that they observe.

   A carrot and stick approach to mobilize families in the fight against growing extremism may include:

   Encourage early intervention by allowing juvenile offenders who have not committed serious terrorist crimes to enter probationary programs, and work with family member who do report extremist activity. Juvenile terrorism offenders are often recruited by family members or friends, and become engaged with online recruiters through peer involvement.

   Make it a duty for family members—wives included—to report known or suspected terrorist activity, such as financing and preparatory acts to purchase weapons or preparation of bombs, or plans to travel abroad with the intention of linking up with a foreign terrorist organization.

Mothers and wives, who do not engage in criminal activities, may nevertheless act as facilitators or stand by passively.

3. Local law enforcement should develop outreach programs for Muslim community organizations and mosques. Many terrorism offenders have at some point in their radicalization trajectory come into contact with Muslim community institutions, often in acrimonious ways, and an increasing number of offenders have in recent years come to the attention of law enforcement through reports from Muslim community members and family. It is important that law enforcement continue to work with Muslim community organizations to develop trust and knowledge about the behaviors signifying extremism.

4. Take a long view on early prevention. Mainstreaming CVE programming into middle-school and high school curricula about Islam and with education about online predators and Internet-use hygiene is one avenue. The focus in schools should be on preventing the development of cliques among students endorsing violent extremist belief systems. This means that school staff should understand what radicalization means and be trained to distinguish extremist practices from the expression of legitimate religious attitudes. Following the findings of the research presented here, the emphasis should be on behaviors associated with violent extremism—e.g. denigration of how most Muslims practice their faith and of other religions, and admiration for martyrdom and violence. Merging education and prevention programming on gangs and all types of violent extremist belief systems should be considered.

1. A NEW APPROACH TO UNDERSTANDING THE DYNAMICS OF HOMEGROWN RADICALIZATION

The Problem

Considerable effort is being made to track and stop Americans who have become dangerously radicalized by ISIL and other foreign terrorist group. More broadly, anti-terrorism prevents aims to stop the development of homegrown extremist networks and clusters capable of radicalizing others. One aspect of this is what has become known as the Countering Violent Extremism (CVE) agenda, which aims to identify radicalized individuals early on and to find ways to discourage them from radicalizing further. The United States has been spared the development of extremist enclaves on the scale seen in Europe but the number of arrests and violent incidents related to jihadist-inspired homegrown extremists nevertheless testify to a growing problem. In 2015, five (5) times as many new federal terrorism cases were filed against American citizens inspired by foreign terrorist organizations as in 2014. By the end of 2015, the FBI had 900 ongoing investigations in all 50 states related to ISIL.[1] Arrests set a record in 2015, a trend that appears to have continued into 2016. The San Bernardino and Orlando attacks are grim reminders of the threat posed by Americans who have been inspired by the Islamic State and testify to the galvanizing effect that the group's aggressive recruitment tactics has had on homegrown terrorism.[2]

The objective of our research is to outline a general and dynamic model for assessing the radicalization trajectory of violent jihadist extremists. The ability to intervene hinges on preventive intervention programs aiming to dissuade radicalizing individuals from committing crimes also require tools that can reliably distinguish between the dangerous and the merely radical. The research and the methods we used provide compelling evidence that individuals who are in the process of becoming dangerously radicalized will exhibit overt and detectable behaviors that are somewhat predictable because they are prompted by action scripts pushed out by the extremist belief system itself. It is hoped that the research will assist law enforcement in developing better assessment protocols for intervention programs and foster a broader public understanding of the signs and symptoms of radicalization.[3]

It is an illusion to think that preventive policing can always get it right. A key difficulty is that in counterterrorism the dangerousness assessment is anterior to the criminal act itself, which inevitably raises important questions about the ethical use of behavioral profiling as a tool for

preventive intervention. Terrorists do not always declare their intentions before they act, and in fact often "go dark" before they act. Deception is integral to terrorist tactics. That said, there is reason to think that evidence-based approaches to risk assessment using behavioral indicators can be of use in counterterrorism and more broadly, in counter-radicalization efforts.

General agreement exists, of course, that it is desirable to stop terrorist before they succeed, but efforts to use behavioral assessment to identify at-risk individuals have also been sharply criticized. One line of criticism is that behavioral profiling stigmatizes Muslims' religious behavior as predictive indicators of terrorist tendencies.[4] Another is that it does not work. Preventive assessments may prompt excessive policing by fabricating "false positives," assessments that inaccurately determine someone to be a risk to society when they are not.[5] The opposite risk may evidently also present itself—the failure to identify someone who really does represent a risk. Omar Mateen, who on June 12, 2016, killed 49 people in a gay nightclub in Orlando claiming inspiration from the Islamic State had been investigated three times by the FBI in response to call-ins from concerned citizens. Each time, the FBI found no reason to think that Mateen posed a risk.[6] Nidal Hassan, Tamerlan Tsarnaev, and Ahmad Khan Rahami were also investigated and deemed no risk by the FBI.

A picture has emerged of today's jihadists as delusional youths who have fallen prey to online recruitment tactics. There is some truth to the stereotype, but it is also true that the most common "homegrown" jihadist terrorist is a man in his mid to late twenties.[7] There is, however, no specific demographic profile for what has become known as *homegrown* terrorism. Some recruits are middle class and college educated. A few even have advanced degrees. Others have histories of delinquency including drug abuse and violent criminality. Some are mere youths, others are middle-aged. Most were not overtly religious before they became involved in extremist circles. A significant number are converts. No common set of grievances, or even common motivations, can easily be identified that make them opt to join groups espousing violent jihad.[8]

We may not be able to establish *who* is likely to become a terrorist, but we should be able to determine *how* people become terrorists in the service of ISIL and the other foreign terrorist groups in the jihadist family that recruit Americans. Instead of trying to profile and identify at-risk populations, this study attempts to identify a dynamic, evidence-based assessment model for analyzing the radicalization trajectories of homegrown militants inspired by the Salafi-jihadist

ideology. (The term refers to the religio-revolutionary hybrid ideology of the movement that in the 1990s coalesced under Bin Laden's leadership.[9])

To be clear, the dependent variable for the study is not the reasons people come to hold extremist ideas, but rather the *sequence* through which most individuals progress from holding such beliefs to perpetrating a violent act or to supporting others committing violent acts. We also estimate how long it takes for someone to move on from merely holding certain views to taking criminal action on behalf of the violent jihadist ideology. We also probe the impact of online extremist social networking in driving radicalization. The internet is widely blamed for diffusing recruitment to violent extremism. In the past you had to know where to go to become a jihadist. Today anybody can meet a jihadist online.[10] Researchers nevertheless disagree about how important online self-radicalization. The internet is where extremists meet and communicate, and it is also often where they are caught. That does not mean that it is the sole or the most significant driver of radicalization.[11]

Our model is descriptive rather than causal. We make no claims about the root causes of violent extremism. Instead, we look for the typical patterns and variations in behavior that has been characteristic of the various sub-strata that comprise the very diverse mosaic of Americans who have become radicalized to political extremism by the foreign terrorist groups in the Al Qaeda umbrella of organizations. This is a first attempt to construct a evidence-based model of the radicalization process characteristic of so-called "homegrown" terrorism offenders who have been inspired by Salafi-jihadist groups. Iterative research will be required to further develop and fine-tune the proposed schema for using overt behavioral indicators to assess progressive radicalization.

Four (4) testable core hypotheses informed the research:

1. Radicalization follows a predictable sequential pathway exhibited in behavioral changes.
2. Increased commitment is indicated by simultaneously occurring changes in behavior that precede violent action.
3. The radicalizing individual will engage in public activity before moving on to the final cataclysmic action.
4. The process of radicalizing to the point of carrying out violent action is measured in months and years rather than days and weeks.

The study subjects were drawn from what, broadly speaking, is referred to as homegrown terrorists. Deciding exactly who is and who isn't "homegrown" can be complicated. The term refers to Americans—and other Westerners—who are inspired to carry out acts of terrorism or to support others committing such acts in their home country on behalf of a foreign terrorist organization driven by the Salafi-jihadist ideology. Americans who go abroad to fight with jihadist groups in a country of which they are not citizens and to which they have little or no ancestral relationship are known as "foreign fighters," but they too are considered "homegrown" to the extent that they formed their extremist beliefs while living in the United States.[12] (The "homegrown" designation is not used to describe extremist groups that lack an international dimension—e.g. the rightwing Sovereign Citizens, Christian anti-abortion terrorism, or eco-terrorism.[13] These are usually described as "domestic" terrorists.)

For the purpose of this study, the term refers to individuals who grew up in the United States or arrived in the country when young enough to have gone to school in the United States and who became radicalized while living in the country.[14] Individuals were considered eligible to be included as subjects for the study if three (3) conditions were met:

1. He or she must have spent some or all of their formative years in the United States.
2. The radicalization process must have taken place primarily within the United States.
3. The first instance of verifiable illicit activity leading to charges related to terrorism took place after September 11, 2001.
4. Adequate data was available on the radicalization trajectory.

About half of the individuals arrested and prosecuted in the United States since 9/11 on terrorism charges related to Al Qaeda and affiliates or successor groups do not fit the definition of a "homegrown" terrorist since they were not radicalized while living in the United States. They are accordingly excluded from the study. It was also obviously necessary to limit the number of the subjects in the study to those for whom there was reliable source documentation about pre-conviction behaviors. In all, we have identified 331 individuals who met these criteria. This larger group of study subjects will be referred to as Study Group A. From this group, individuals were randomly selected for more detailed study. Inclusion in the detailed study was conditional on the public record providing sufficiently detailed information about the offender's actions prior to conviction—or, in some cases, death in the course of committing a terrorist act. Halfway through the list, we ran out of time and funds. On average, a coder spent about 8 hours

on a case, but some cases required only a couple of hours while others took several days. Following the data collection phase of the research, 135 individuals were included in the second detailed study (Study Group B), and 22 records had been excluded on grounds of insufficient documentation. While it may have been desirable to include more cases it is worth noting also that towards the end of our coding phase the empirical metrics generated from the data changed little with the addition of every new case, which suggests that the data sample was sufficiently large to generate reliable results. It should be noted, however, that small N-studies like ours typically do not lend themselves to probability inferences. In the case of the present study, the population we are studying is also highly heterogeneous which further indicates that inferences about probability should be treated with caution.

The methodology and the coding scheme used to assess behaviors associated with growing extremism are explained in Section 2. In Section 3 the study subjects and data collection process are reviewed. Section 4 reports our findings with respect to the timelines for radicalization. Section 5 describes the behaviors associated with progressive radicalization and their placement within the schema, while Section 6 focuses on the analysis of the sequences of those behaviors. The impact of social media and other important changes in patterns of radicalization that have occurred in the last 5 years, specifically in the wake of the declaration by ISIL in 2014 of a Caliphate and a new "Islamic State" in its occupied territories, are discussed in Section 7.

2. MODELING THE RADICALIZATION TRAJECTORY

By and large, assessment protocols currently in use rely on multiple indicators, which are sometimes ranked by the frequency with which they have been observed in the biographies of known terrorists.[15] A study published in 2011 by the National Counter Terrorism Center (NCTC) ranked indicators by the frequency with which they presented themselves in 22 case studies of homegrown violent extremists.[16] The study, which focused exclusively on jihadists, identified several well-known risk factors. For instance, communicating with other extremists and watching jihadist videos, the most common activities associated with extremism, occurred in 91% of the cases.

The VERA2 assessment scale (standing for "violent extremism risk assessment protocol") used by the U.K Home Office offers a more complex multidimensional assessment

methodology, but like the NCTC model it utilizes what social scientists term *nominal scaling*.[17] A nominal scale, as the name implies, categorizes data without any order or structure. The guidelines essentially provide check-off menus. But invariant and pervasive behavioral cues are not helpful for determining dynamic and progressive radicalization. Becoming engrossed in online extremism, for example, may be a gateway activity or indicative of late-stage radicalization, but it may be simply a symptom of adolescent discontent and restlessness.

Prevention assumes that it is possible to know, in advance, which specific behaviors, or combinations of behaviors, are suggestive of a high degree of risk. Risk assessment tools should, at minimum, be sufficiently fine-grained to specify and identify such behaviors and also be capable of assessing changes in behaviors that are suggestive of an individual's progression towards criminal action. Theories of radicalization suggest a logic of deepening commitments that are both conjunctional and propositional: for instance, if behaviors A and B occur together or in sequence, then the radicalizing individual is likely to progress to behavior C. Dynamic indicators should be able to identify, together or in sequence, patterns of behavior that indicate stages in a process that indicates a high risk of leading to violent action.

Radicalization Trajectories

Suggestive metaphors have been used to describe the radicalization process. John Horgan argues we should think of "pathways" to extremism, implying that multiple roads may lead to the same climactic endpoint.[18] Randy Borum has proposed using the term "action scripts" which intuitively suggests that direction is involved.[19] (In theater, scripts tell actors what to do. The term is also used to refer to the programmatic instructions used to automate computer processes.) The basic idea is essentially the same: radicalization occurs through a process of deepening engagements that can be observed in changing overt behaviors. Psychologists tend to take the long view. Priming a normal person to accept a moral and personal imperative of self-sacrifice takes time. [20]

The process view has recently come under criticism. Mohammed Hafez and Creighton Mullins argue that it is a mistake to take the metaphor so literally as to think that we can identify a single orderly sequence of steps that can use to "identify budding radicals on the path to violent extremism."[21] And even if we could identify a sequence of steps characteristic of radicalization,

it might be of little practical use—and perhaps even a perilous exercise that infringes on civil liberties.

The criticism is fair. No agreement exists on how many stages there are to the process—or even if distinct stages exist. Fathali Moghaddam favored the image of a "staircase to terrorism" and envisioned 5 distinct steps up to the top.[22] Others have compared radicalization to a "funnel." In what has become known as the NYPD model, Silber and Bhatt identify four phases of increased ideological commitment: "Pre-radicalization", "Self-identification", "Indoctrination", and "Jihadization."[23] But Hafez and Mullins propose an alternative that is hardly more precise—that we should think of radicalization instead as "a puzzle." The full picture emerges when the pieces are put together.

Reducing ambiguity is vital in hypothesis testing. The NYPD model offers the most straightforward conceptualization of the radicalization process, and it was therefore chosen as the basis for creating a typology of overt and detectable behavioral indicators of behaviors associated with extremism. The NYPD model never specified which behaviors were associated with each stage in the radicalization process or if behaviors would be sequential. Silber and Bhatt switched to a heuristic use of their model in the report, and used the stage model only to analyze cell-level behaviors. Using the process model in the analysis of individual-level data to assess individuals who are suspected of becoming dangerously radicalized therefore requires a number of additional conceptual steps.

A dynamic model requires that we are able to establish sequences of behavior that reliably anticipate violent action. It should determine how individuals move from the initial stage of cognitive opening to extremist belief and then on to the final stage of "doing something". The end point of an individual's forward march to "doing something" is clearly defined as the moment at which an individual commits a criminal offense or is arrested on charges that lead to conviction. But it is much harder to assess the onset of radicalization. Without a known starting point, it is not possible to establish the timeframe for the typical radicalization process. Hindsight is required. A solution to the dilemma is to estimate radicalization trajectories by working backwards from the time of action.

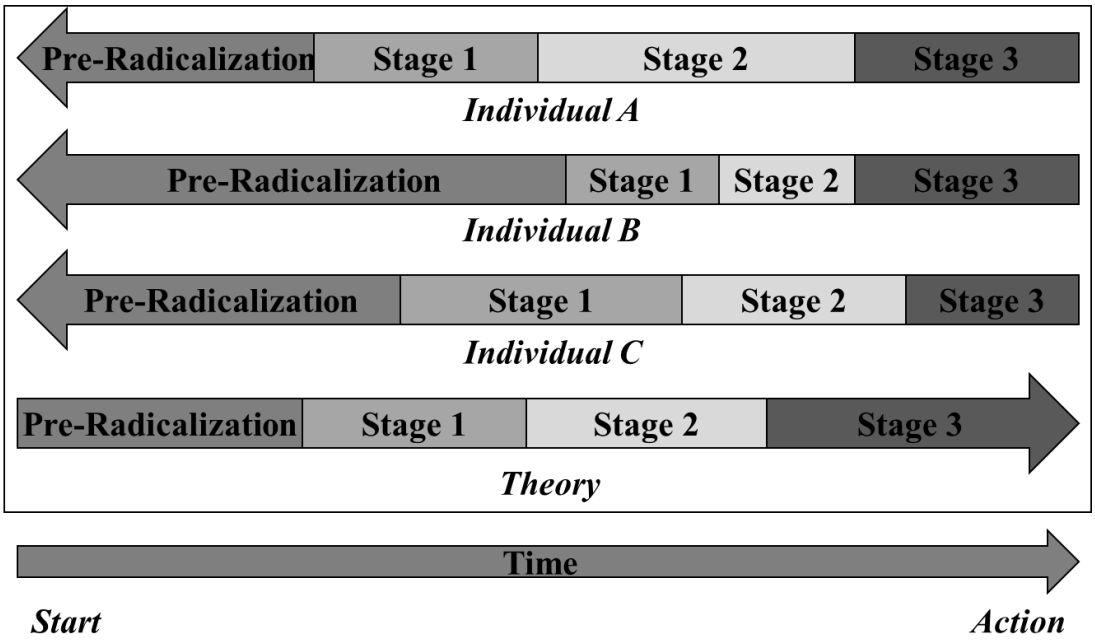

Figure 2.1. Model for Estimating Radicalization Trajectory Progression

By defining the moment when an individual is arrested or "does something" as the "zero hour," we are, when given sufficient biographical evidence, able retroactively to trace signature behaviors indicative of an increasing commitment to extremism. The conceptual model is depicted in Figure 2.1. Particular individuals will exhibit different timelines (represented by Individuals A, B, and C in Figure 2.1). The radicalization trajectory rate is a measure of the time it takes for an individual to move from initial identification with the ideas and objectives of an extremist ideology to undertaking violent action in the name of that ideology (represented by the theory bar in the Figure 2.1.). The standardized radicalization trajectory rate for a population of offenders—or a particular subset (hereon referred to as a cohort) of offenders—is expressed as the mean time the cohort took to progress to action. The aim is to calculate the means and median values for radicalization trajectories, and to identify variations in the trajectories between different types of offenders.

Behavioral Cues to Radicalization

Indicators of behaviors considered to be associated with the Salafi-jihadist belief system were identified and specific cues were specified for inferring such behaviors. (These are listed in table 2.1.) The selection of behavioral cues was informed by the general literature and by our previous research on homegrown terrorists.

Table 2.1. Behavioral Indicators of Stage Progression in Radicalization Trajectories

Stage:	Pre-Radicalization	Stage 1: Detachment	Stage 2: Peer-Immersion and Training	Stage 3: Planning and Execution of Violent Action
Description:	Searching behavior indicative of cognitive opening.	Detachment from previous life; e.g. by spending inordinate amounts of time with online extremist peers.	Leaves home to become closer to a peer group of like-minded individuals.	Attempts or enacts violent action—or joins a terrorist group abroad or attempts to join a group.
This could include:	Expressions of disillusionment with world affairs or with religious or political authorities.	Actively seeking to get closer to new authority figures, or engaging in *Da'wah* online or to proselytize in public.	Attempting to go abroad to join an organization or a network to "live" as prescribed by the ideology.	Actively supporting another person carrying out violent action on behalf of the ideology.
	Behavior indicative of a personal crisis in response to personal events, e.g. a family crisis, drug addiction, or being arrested.	Experiencing a revelation or making changes to lifestyle such as dropping out of school or work.	Behavior indicative of a desire to permanently join the militant community, e.g. by finding a spouse through the extremist community.	Issuing threats online or real-life, or in other ways supporting immediate violent action, e.g. by engaging in online fraud.
	Seeking out information in venues outside the individuals' established social milieu, either online or real-life, from new authority figures.	Picking fights with local mosque or teachers, colleagues, and family—or otherwise trying to convince others to change, e.g. by starting a blog or a website.	Seeking out ways to demonstrate commitment to the new ideological community and its mission, e.g. by acquiring practical training in the use of firearms or other skills considered important to the mission of the extremist community.	Joining a foreign terrorist organization or taking practical steps to carry out an attack, e.g. by acquiring materials needed to fabricate a bomb or purchasing firearms.

Following a pilot study, some cues were added or relocated to the initial coding scheme. The cues were chosen on the assumption that the behaviors involved are likely to have been noticed by family members and friends, or to have provoked public concern. A codebook was then developed enumerating specific cues associated with each of the four stages. (It should be noted that the NYPD researchers did not specify the specific behaviors expected of individuals as they progress through the stages and should not be held responsible for the operationalization of their model proposed here.)

3. FITTING FACTS TO THEORY

Detailed forensic biographies were collected for each of the subjects in Study Group B. The biographies are essentially case summaries compiled from court documents, online communications posted by the terrorist offenders (e.g. Twitter and Facebook profiles), and investigations conducted by the U.S. government and news media. Media interviews with family and friends or local community members, including Imams and mosque officials, were also drawn on when the information was considered reliable. Each individual was assigned a case number and a row in a spreadsheet, and biographical timelines constructed.

Following the codebook, the researchers combed through the primary material and entered into a spreadsheet the first date at which a particular cue indicative of increasing militancy was noted. The methodology is a variant on process tracing, which is used in the study of social movement mobilization to assess sequential causal mechanisms from qualitative source material.[24] This allowed the timelines for the individuals' radicalization process to be charted. By correlating the timeline data with other biographical information, e.g. age, gender, and whether a particular individual grew up Muslim or converted to Islam before or during the radicalization process, profiles of the typical radicalization trajectory of different cohorts were constructed.

Information about key dates, such as when an offender first started to change his or her way of dress or attempted to travel abroad to join a terrorist organization or came to the attention of law enforcement, were generally found without much difficulty. Other indicators, such as evidence of personal trauma, or when and why an individual dropped out of school, were often not available in documents deriving from prosecution and adjudication and required more research.

The onset of radicalization was inferred from the narrative records using a battery of indicators generally thought to be associated with early-stage extremism (for a full description of the indicators used, see Section 5). The age profile of the offenders who were selected for the detailed radicalization biographies (Study Group B) matches what is known about the demographic characteristics of homegrown terrorists and is therefore representative of the broader target population we wish to analyze.

Inter-Coder Reliability and Source Bias

The process tracing methodology is demanding in terms of the amount of evidence that is required to make reliable inferences about sequences and causal mechanisms. A procedure was developed for dealing with missing information and for inferring data from other circumstantial data.[25] A case would be omitted from the study if the available documentation were insufficient to code dates for information about *any* cues in two stages in the model. Where reliable information could be retrieved for a range of indicators, but not on a particular indicator, we assumed that the specific behavior did not occur. (The reliance on public evidence of private—and sometimes clandestine—behaviors undoubtedly caused us to underestimate the occurrence of some behaviors.)

Cases were randomly assigned to the coders. To assess agreement between the coders (inter-coder reliability) 9 cases were coded by every coder. The inter-coder agreement was 88% with calculations based on all possible cells from the records used in the coding exercise (demographic and timeline data for each of the 9 cases, 40 variables in all, corresponding to 360 cells in the test spreadsheet).[26] Coders generally agreed when no evidence could be found. Inter-coder reliability dropped to 80% once the empty cells were removed from the base number. This indicates that where evidence was available the coders agreed on how to infer data points for 4 out of 5 variables. (It is easier to agree on the absence of data than on how to infer data from text when it is available.) Overall, the ratio is indicative of reasonable consistency between the coders.

The research relied for the most part on information released in the course of prosecutions. The information is public, which means that researchers can use it. (The use of private information about human subjects is restricted by privacy rules.) The research therefore focused mainly on individuals who were arrested and taken to court, although we have tried to include individuals who died in action or are at large but are known to be fighting with a foreign terrorist group. This may bias the case selection towards the more incompetent would-be terrorists. Critics have also suggested that using legal documents to study terrorists invites the government to tell their stories. A more significant bias probably derives from what is *not* said in court documents than from what *is* said. Evidence that is pertinent to the radicalization process will often not be relevant to the adjudication of a criminal offense. Parental conflict or childhood trauma are types of information that we would like to assess as motives and drivers of

radicalization, but it is rarely presented as evidence in a trial for terrorism offenses. While recognizing these limitations, the methods used provide a robust data set that yields significant insights into common features of the radicalization process.

The Demographics of Homegrown Terrorism

Homegrown terrorism offenders are demographically diverse. 27% of the larger study group of homegrown American terrorists (N=331) are high school graduates, and 35% attended or graduated from college. Only 16.5% are high school dropouts. The rest held vocational degrees or, in a few cases, advanced degrees (see Figure 3.1). 35 subjects had prior criminal convictions unrelated to terrorist activity.

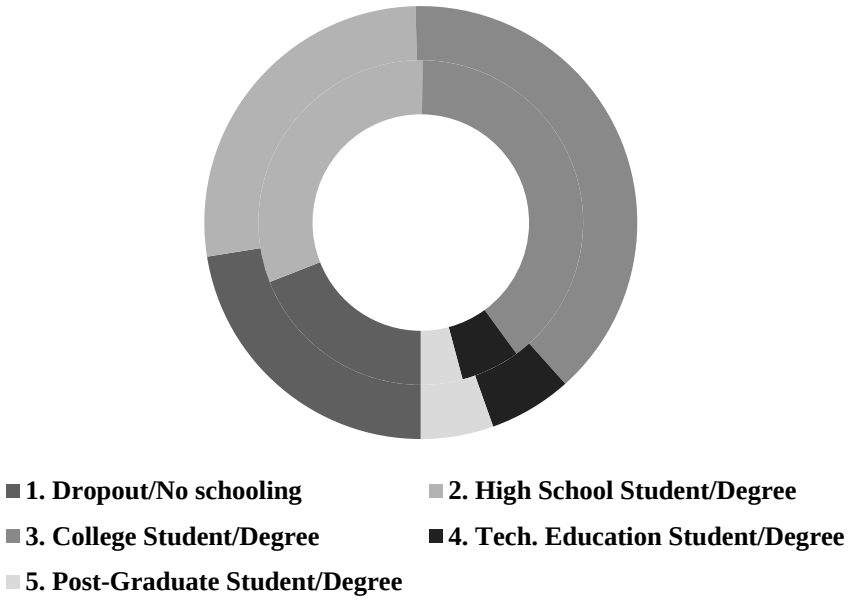

Figure 3.1. Educational Status of American Homegrown Terrorists—Comparison of Study Groups
Explanatory Note: The outer ring shows Study Group A (n = 289, 42 missing). The inner circle shows Study Group B (n = 129, 6 missing subjects) included in the smaller subset.

Converts comprised a third of the subjects in the large data set, but 40.7% (55 individuals) in the smaller study, and so they were slightly overrepresented in Study Group B. A common assumption is that the converts are "white" and natural born Muslims are "brown" or "black." This is inaccurate. Among those who were raised as Muslim some had parents who had converted to Islam. The Boyd family is an example. Daniel Patrick Boyd, a White man from

North Carolina, was arrested in June 2009 together with two of his sons and a group of other men on charges of planning to attack targets in the United States and plotting terrorism abroad. Boyd brought his family into the conspiracy. In the late 1980s Boyd and his brother had fought in Afghanistan. In 1991, the brothers were arrested in Pakistan in connection with a failed bank robbery allegedly for the purpose of raising money for a Salafist group in Afghanistan. Their convictions were eventually overturned and they were released. Daniel Patrick Boyd returned to the United States, with the assistance of the U.S. government, and in due course built a business while raising 5 children as devout Muslims. Between 2006 and 2008, Boyd and his group, which by that time had grown to include other youths from the area, tried to enter Gaza to carry out violent actions against Israel and they attempted to join the jihad in other countries as well. When they failed, the group began in 2009 to plot an attack on a military installation in the United States. Boyd brought two of his sons, Zakariya Boyd, 20 and Dylan Boyd, 22, into the conspiracy.[27]

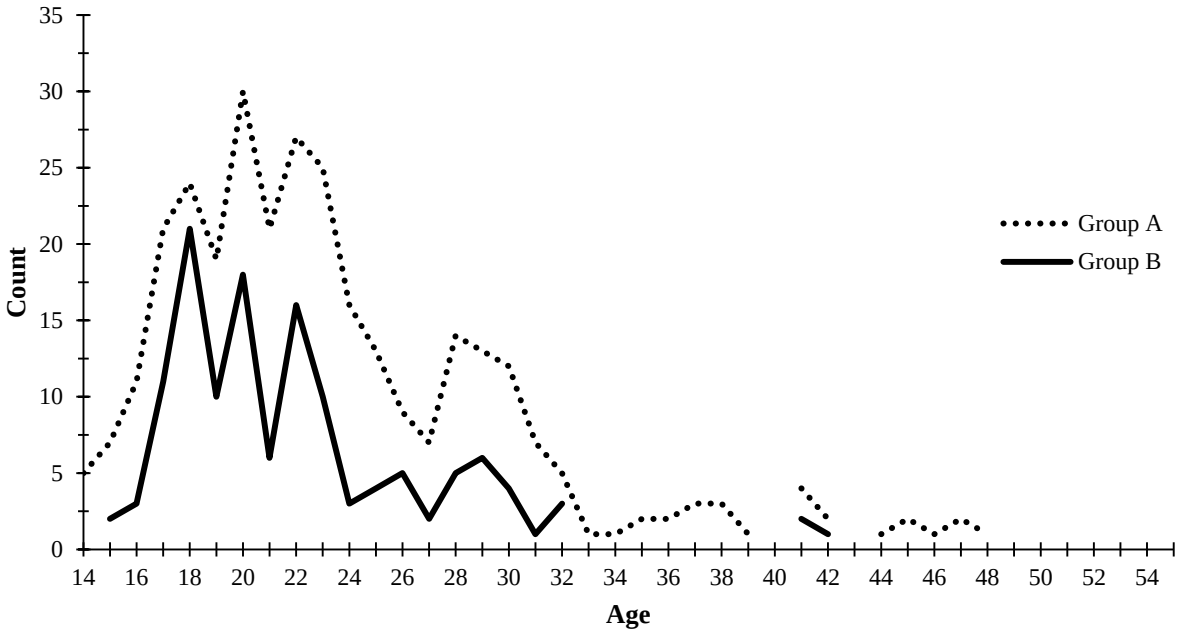

Figure 3.2. Estimated Age of the Offenders at the First Indication of Radicalization.
Explanatory Note: Breaks in the line indicate that no subjects were included in the study from the particular age.

The slight overrepresentation of converts aside, the subgroup is otherwise roughly similar to the larger study group of American homegrown offenders. We were able to assess with

reasonable accuracy the age at which offenders were radicalized by subtracting the year of birth from the year of the first indication of behaviors consistent with militancy. The bulk of homegrown offenders were between the ages of 19 and 29 when they first exhibited signs of extremism.

The median age at radicalization was 22 within the larger study, compared to 21 in the smaller study group. The larger study included 87 individuals who began radicalizing as teenagers (19 or under), 175 who were between 20 and 29 years old (53%), and 51 who were over the age of 30. Study Group B had 49 jihadists who began radicalizing as teenagers (younger than 20), 74 in their twenties (55%), and 12 above 30 years old. Figure 3.2 charts the age profile of the offenders at the time of the first (public) indication of behaviors consistent with sympathy for the jihadist belief system.

After 2010 a noticeable uptick was seen in the number of teenagers who became involved with terrorism-related crimes.[28] Sometimes, but not always, online social media prompted the process. More often social media fueled co-dependent radicalization of a peer group or close relatives—in one case, three siblings. In December 2014 two brothers, 19 and 16 years old, and their 17 year-old sister from Chicago were caught attempting to fly to Istanbul, hoping to go on to fight in Syria. They were recruited by a 22-year old British foreign fighter based in Syria known as "Abu Qa'qa," who initially was contacted by the young men's sister via Twitter.

In 2012, the 19-year old Shelton Thomas Bell and an unnamed 16-year-old co-conspirator traveled to Jordan and attempted to go to Yemen where they hoped to join a terrorist organization. The two teens were arrested in Jordan and returned to the United States. Two other teenagers belonging to the group opted to stay home and were never charged. The group bonded over watching online propaganda together, but Bell's conversion experience was the initial impetus for the formation of the group.

The ISIL teen phenomenon has drawn a great deal of public attention, but teenagers were susceptible to the lure of Islamic extremism before the dawn of social media and ISIL recruiters online. An example is a group of youths who got together in Sudbury, a Western suburb to Boston, in the late 1990s. One member was Tarek Mehanna, a pharmacist who was found guilty in December 2011 on four different terrorism charges related to actions inspired by Al Qaeda. Mehanna was 15 when he and one of his friends, Ahmad Abousamra, started watching Al Qaeda videos in 1996. (See Textbox 3.1 for details of the group's history).

The social dynamics of this group's evolution are very similar to what we see today, except that the videos were mail order and the youths spent many hours translating long and turgid speeches by Ayman al-Zawahiri from Arabic into English instead of exchanging snappy one-liners on social media. Another difference was that the young men were allowed to continue their activities for nearly a decade before U.S. authorities became concerned that they might be plotting to "do something" at home, and they were arrested. Mehanna never managed to join a foreign terrorist organization (despite many tries). His school friend, Abousamra, stayed in school throughout the group's flirtation with extremism and graduated with a degree in computer science from a Boston area university. He joined Al Qaeda in Iraq and eventually moved on to ISIL and allegedly helped to develop the vast and sophisticated online propaganda machine of the Islamic State. (Abousamra is believed to have been killed in an air strike in Syria in 2015.)[29]

Textbox 3.1. A Decade of Extremism—The Sudbury, MA Group

A group of childhood friends from Sudbury, Massachusetts, spent over a decade looking for an opportunity to do something big for the global jihad. Together they represent a pattern of radicalization that begins in a peer group and branches out using the internet, eventually connecting up with global jihadist networks. Ahmad Abousamra started watching Al Qaeda videos in 1996, when he was 15. In 1999 or 2000, his friend Tarek Mehanna joined him in watching videos. Eventually others joined. The participants would remain in contact via blogs and forums over the years and throughout their various moves. Abousamra first went to Pakistan first in 2001, and again a year later, looking to join one of the jihadist groups in Waziristan. In 2003, the friends decided to try to join Al Qaeda in Iraq instead. A year later, they flew to Yemen hoping to join Al Qaeda in Iraq. Again, they failed.

Back home in Boston, they started to translate jihadist literature into English and became active bloggers and web administrators for various jihadist sites. Mehanna started to take on students. On one occasion he took his pupils to the World Trade Center crater in New York City to celebrate the anniversary of the 9/11 attacks. The friends also at one point plotted to carry out an attack against a local mall. Meanwhile, Abousamra graduated in December 2006 with a degree in computer science. Mehanna got a degree in pharmacology. Upon his graduation, Abousamra moved to Syria where he joined the jihadist insurgency in 2011 and in 2014 joined ISIL putting his computing skills to work. He was allegedly killed in Syria in June 2015.

Another member of the group, Daniel Maldonado, a Latino convert from Methuen, Massachusetts, pioneered the development of the lateral online jihadist blogosphere. In 2005, Maldonado moved to Houston to work for a jihadist internet entrepreneur, Sarafaz Jamal, and developed a family of chat rooms and online forums that brought together a number of people who went on to work on the Inspire Magazine and related online publications associated with AQAP and Anwar al-Awlaki. Maldonado joined al Shabaab but was captured in January 2007 in Kenya while fleeing Somalia and was sent to the United States. He was sentenced to 10 years in prison in July 2007. Mehanna was arrested in 2008. He never managed to join a foreign terrorist group.[30]

Overall, terrorism is an adult crime—not a teen crime like gang crimes.[31] But there is wide variation. The terrorist age-crime curve drops off sharply by the age of 33, but outliers have embraced extremism in middle age. The older men—some of them grandfathers—all wanted to

commit domestic attacks. A few of the women fell into the category of older offenders. Colleen LaRose, also known as "Jihad Jane", was 46 years old when she was arrested in 2009. Another example of a recently radicalized mature terrorist is Terry Lee Loewen, 58, who was arrested in December 2013. He was charged with planning to commit a suicide attack against an airport in Wichita, Kansas. In some ways Loewen was no different from the recently radicalized youths. He was a fan of Anwar al-Awlaki and the website RevolutionMuslim.com and was in possession of *Inspire*, an online magazine produced by Al Qaeda in the Arabian Peninsula. In one respect, however, the older offenders do stand out: none succeeded in their endeavors.

4. ESTIMATING RADICALIZATION TIMELINES

How long does it take for an individual to become a terrorist? Opinions on the time frame for radicalization can vary significantly. While psychologists tend to think it takes years to prime an individual for violence, law enforcement and social workers involved with extremists often emphasize that the window for intervention is narrow, sometimes very narrow.[32] An FBI official (who spoke off the record) asserted that the opportunity for intervention is "a matter of days, not weeks." Abdurrahman Anderson, a British charity worker who is engaged by the United Kingdom's probationary services to work with terrorist offenders, concurred. He pointed out that, in his experience, certain individuals could radicalize quickly from "stage A, B, and straight to Z."[33]

In fact, both camps are right. Our data shows that radicalization generally unfolds over the course of several years. The median was just over 4 years—or 50 months. All the same, it is difficult to speak of a "typical" length of time for radicalization. A few individuals take longer to take action. Removing the 10% who took the longest to take action—sometimes a decade—reduced the typical trajectory to three years.

In the last 5 years, however, the typical radicalization trajectory has contracted significantly. Of the many jihadists arrested in 2015, most were radicalized in less than 5 years, often in less than two years. Many youths, particularly teenagers who grew up in Muslim households, made the transition in a matter of months. The variation in how quickly individuals radicalize complicates efforts to paint a general picture, but some regularities stood out once the data was broken down to focus on sub-strata within the population of homegrown offenders. The following section begins with an analysis of the timelines for radicalization in general and for

each step in the process, and then describes differences between demographic subgroups of offenders. The relevance of our findings for law enforcement intervention will then be indicated.

Measuring the Radicalization Timeline

The start date of the radicalization process was based on the first indication that an individual showed an interest in jihadist ideology. This was inferred from the forensic biographies of the offenders. The end point—referred to as the "bang" in the criminology literature—comes when an offender was incarcerated or engaged in a climatic act related to terrorism. "Bang" was here defined as one of the following events: death related to a terrorist act, travel abroad for the purpose of joining a foreign terrorist organization, or arrest leading to conviction on terrorism-related charges. By coding the time points (year, month) for different behaviors, we are able to chart the timeline of individual offenders, identify the start and end points of each stage, and calculate the average and the mean time length of the entire radicalization trajectory.

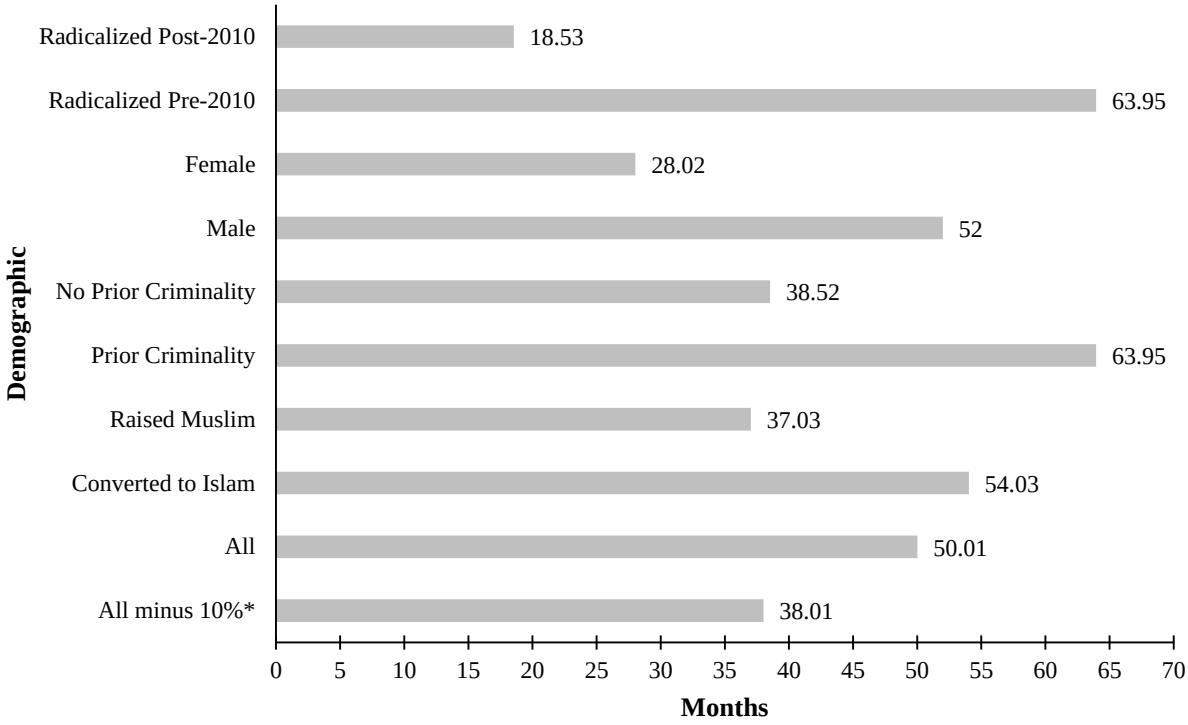

Figure 4.1. Time from Initial Cognitive Opening to Terrorist Action—All Stages
Explanatory Note: N = 1*25.* (Months; median values). 10 missing information about pre-radicalization stage.
*10% outliers removed from upper end of distribution (long-timers removed).

The presence of extreme outliers on the end of the spectrum means that metrics using averages (mean values) are largely meaningless. Instead we report the median values that indicate the midpoint of the frequency distribution.[34] Because of the distortion caused by a handful of very long-germinating jihadists, we removed from the sample the individuals who fell into the upper ~10% on the distribution—11 individuals who were extreme outliers with very lengthy and highly atypical radicalization trajectories. Removing the outliers reduced the mean (average) timetable for the radicalization process from the initial exploration to criminal act to 38 months (3.2 years), from 50 (4.2 years). Figure 4.1 compares the median time for the radicalization trajectory of the study group as a whole and for various demographic subgroups.

The upper 25% of the frequency distribution took more than 7 years to arrive at the culmination of their radicalization in arrest or death. Characteristic for the "long timers" was that they spent a great deal of time searching for opportunities to realize their ambition of becoming a *mujahidin*. An example is Elton Simpson, one of the two men who attempted to attack an exhibit featuring cartoon images of Muhammad in Garland, Texas on May 3, 2015. Reconstructing his biography we discovered that Simpson had been radicalized and was pondering action for close to a decade. In 2010 he was arrested and charged with planning to join al-Shabaab, but he was not charged with support for terrorism. Convicted of lying to the FBI about his plans, he was issued a three-year probation order. Simpson's online activities had attracted attention but the FBI did not think that he posed an imminent threat, although he was in contact online with notorious British fighters associated with ISIL in Syria and shared an apartment with Nadir Hamid Soofi, who also took part in the failed shooting attack.[35] It appears that Simpson lived in an insular social bubble for a decade, interacting almost exclusively with others who shared his extremist views, and became galvanized into attempting the shooting attack by his online engagement with British fighters associated with ISIL.

At the other end of the spectrum, the lower quartile, the study subjects typically took one to two years to complete the arc of radicalization. Women typically radicalize faster than men. Converts are slower to take action than are individuals who grew up as Muslims.

In and around 2010, terrorist recruitment was dramatically transformed by the development of new online communications tools—generally referred to as the Web 2.0 environment of laterally-integrated social media file sharing. Efficiency gains from the switch to

social media networking would seem to be particularly important in the early phase prior to radicalization and in the later stages when adherents are pushed by recruiters to "do something."

It is apparent that offenders in the post-2010 cohort were much quicker to reach the point of taking action than were members of the pre-2010 cohort. A number of explanations present themselves for the phenomenon, notably the efficiency gains presented by online recruitment and the "open door" policy on the part of ISIL which has made it possible for nearly anyone to imagine themselves a denizen of the new caliphate. It is also likely that enforcement tactics focused on breaking up potential terrorist cells as quickly as possible imposes a sense of urgency on recruiters. Overall, the contraction of the average radicalization trajectory to about 1 ½ years would seem to validate law enforcement concerns that the window of opportunity for intervention has narrowed significantly.

A Narrowing Window for Preventive Intervention

Attempting to estimate the window for preventive intervention, we focused on analyzing how long, on average, it took the offenders in our detailed study to progress from exhibiting the initial signs of having become radicalized (start of stage 1) to the moment when they start making plans for a final illegal act on behalf of the foreign terrorist group to which they have become adherents (the conclusion of stage 2).

Some individuals move very swiftly to action. Again, setting aside the 10% who take a long time to make up their minds to embark on violence, radicalized individuals now take from between 4 to 16 months to go from the initial stage of embracing extremist ideology to making plans to commit an act of terrorism. (See Figure 4.2.) Women, unexpectedly, proved to be very quick to move on, typically taking just four months. A plausible explanation is that women often engage in "low threshold" activities—e.g. their first radical act often is to attempt to travel abroad to "marry" a fighter with the Islamic State or a terrorist operative based in Europe. Also, unexpectedly, we found that converts and individuals who have previously been convicted of crimes unrelated to jihadism took twice as long as other offenders to reach the point of taking action. The two groups partially overlap—one-third of the converts in our study group also had previous criminal records – but individuals with criminal records are comparatively slow to take action.

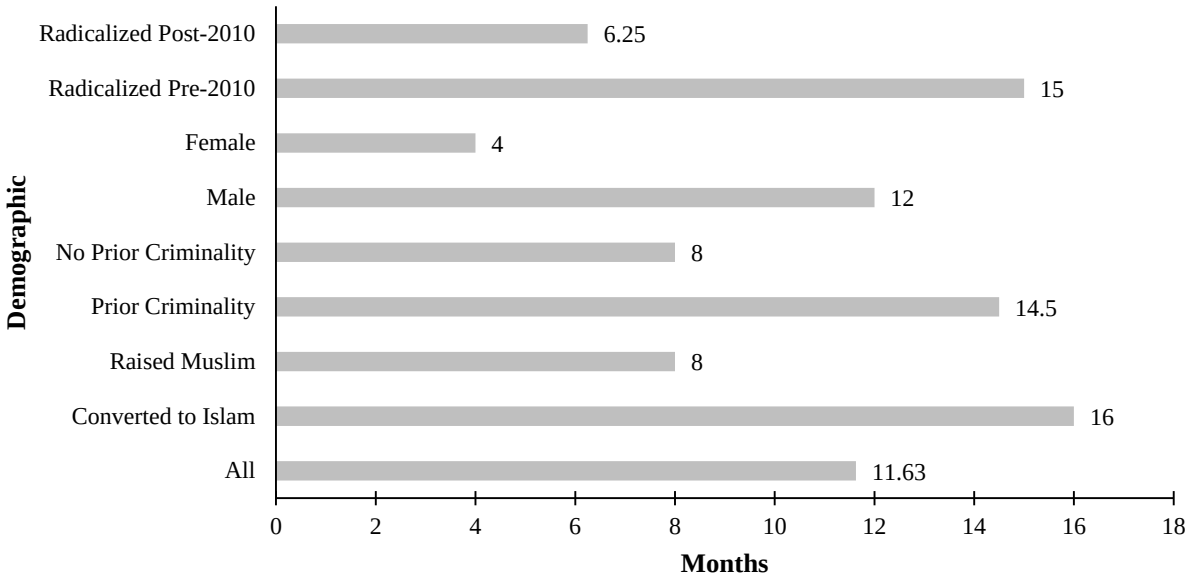

Figure 4.2. Time from Start of Detachment to End of Peer Immersion/Training—Stages 1 and 2
Explanatory Note: N = 123. 10% outliers removed from upper end of distribution.

The acceleration of radicalization was apparent when we compared the pre and post-2010 cohorts. One cohort (80 subjects) consisted of those who began radicalizing prior to 2010. The other (55 subjects) included those who became radicalized during or after 2010. Time elapsed between the first overt sign of radicalism (start of stage 1 behaviors) and taking steps to terrorist action (end of stage 2) was typically 15 months for the pre-2010 cohort, compared to 6.25 months for the later cohort. The reasons to focus specifically on this phase in the radicalization process is that this is when preventive interventions should ideally occur—after it has been established that the individual harbors potentially criminal plans but before he or she gives effect to those plans. This is when family and friends, and bystanders from the mosque or the school, or co-workers, start worrying.

By 2015 the average length of the radicalization trajectory had decreased to just over one year. Several inferences may be made. Once an individual has embraced the radical belief system, there is very little time to intervene, but the window for preventive intervention is wider *before* the radicalizing individual moves on to engage in the manifest behavioral changes associated with what we here have described as stage 1 behaviors—life-style changes, aggressive complaints about other Muslims and relatives' lack of proper piety, etc.

5. EMPIRICAL ASSESSMENT OF THE MODEL

We now turn to the question of sequence and the utility of behavioral cues for assessing radicalization. A list was developed of specific behaviors that were thought to correspond to the different phases in the radicalization process. For the purpose of an empirical assessment of the offenders' biographies, specific cues of each type of a behavior were developed for use by the coders. Ultimately, the utility of the dynamic assessment model hinges on the model's predictive value. Are the behaviors thought to indicate increasing radicalization observed with some frequency? Do the different behaviors occur in the anticipated sequence suggested by the model? And are the envisioned stages really distinctive steps?

A note on terminology is required. *Indicators* refer to the variables used in analysis of the radicalization. *Cues* are the list of specific behaviors listed in the codebook as examples of these indicators. When discussed, the indicators are indicated in ***italicized boldface.*** Analyzing the data to determine "fit" within the model was no simple matter. With 135 cases and 24 different indicators, the spreadsheet comprised over 3,000 cells. The rows in the spreadsheet are the offenders' radicalization timeline. Using a computer algorithm in a simulation model, the spreadsheet data was evaluated and sorted based on the degree of conformity with the hypothesized radicalization sequence elaborated by the theoretical model.

Each row was analyzed individually using a "counter" for tracking whether an indicator falls within its expected stage of radicalization. A counter value of one is assessed when the indicator in a person's timeline conforms to the expectations. By way of example, if a cue to person A's pre-radicalization occurred before cues thought to indicate a later stage in the radicalization process, a value of one was assigned. If the next chronological cue also conformed to expectations regarding the types of behaviors consistent with the pre-radicalization stage, the counter remained at one. If the following indicator falls in stage 1 as anticipated, the value moves to two. Whenever a cue did occur in its anticipated place in the sequence, the counter value remains unchanged and the specific indicator is recognized as out of order.

The metric provides a tool both for assessing the "fit" of a particular behavioral indicator to the model and for assessing the sequencing of individual trajectories. The fit analysis is summarized in Table 5.1.

Table 5.1. Behavioral Indicators of Progressive Extremism
Ranked by Frequency of Occurrences Within Stages of Radicalization.

Indicator and Cues	**Frequency (135 Cases)**	**"Fit" with model**
P-R: Seeking New Religious Authority: Attending a new place of worship or communication with a radical cleric.	57% (77)	74% (57)
P-R: Information Seeking: Downloading or procuring jihadist literature, or other information indicating the earliest known date on which an individual began actively seeking out sources of jihadist information.	55.6% (75)	84% (63)
P-R: Disillusionment: Public expressions online or to friends or family of disillusionment with world affairs, religion, or Western society.	42.2% (57)	80.7% (46)
P-R: Personal Crisis: Adverse personal circumstances leading to dissatisfaction with self or introspection, catalyzed by continuous, prolonged problems; e.g., incarceration, drug addiction, unemployment, homelessness.	27.4% (37)	75.7% (28)
P-R: Trauma: An event causing a shock or injury; e.g. death of a loved one, personal injury or illness, an accident.	19.3% (26)	84.6% (22)
S-1: Lifestyle Changes: Overt changes indicative of new religious piety following the prescriptions of jihadism; e.g., changes styles or grows a beard.	54.1% (73)	79.5% (58)
S-1: Da'wah (Virtual): Active circulation of extremist material in an online setting; e.g., publishing or recirculating material on social media, public postings of such material, encouraging others to extremism on the internet.	34.1% (46)	56.5% (26)
S-1: School Dropout: Voluntary withdrawal from classes or educational program or by dismissal from program. Applies only to students.	31.9% (43)	48.8% (21)
S-1: Da'wah (Real-Life): Actively taking part in the dissemination of extremist material or encouraging others to adopt orthodox beliefs, handing out literature in public places.	23.7% (32)	56.3% (18)
S-1: Educational/Occupational Disengagement: Includes, but is not limited to suddenly falling grades or seeking jobs involving little supervision.	18.5% (25)	48.0% (12)
S-1: Underemployment: Pursuing a job on the premise that such work would not interfere with religious beliefs or obligations, or seeking manual labor to earn money in order to travel abroad or to provide support to an extremist organization.	17% (23)	65.2% (15)
Rebellion: Acts out against formerly central life figures on an ideological basis or starts haranguing individuals at place of worship, defacing property.	11.9% (16)	No specific stage
S-2: Desire for Action: Specific, verbalized desire to fight abroad or take part in domestic plot.	85.2% (115)	96.5% (111)
S-2: Peer-Immersion: Finding like-minded extremists, often in conjunction with dissociation from former peer-groups.	68.9% (93)	96.8% (90)
S-2: Domestic Physical Training: Starts physical training, often with peers; e.g. seeks experience with guns, target practice, weight training, paintball, or training as a medic.	34.1% (46)	91.3% (42)
S-2: Marriage Seeking: Starts online dating on websites, seeks marriage with someone met online or in real-life, or relocates abroad to marry.	20.7% (28)	89.3% (25)
S-2: Societal Disengagement: Refuses to vote in elections; disdains democracy as disallowed for Muslims, seeks to relocate to a Muslim country (non-insurgent zone).	14.8% (20)	85.0% (17)
Epiphany: Articulating that he or she has been called by God to take action or a sudden realization that violent jihad is an obligatory personal act.	8.9% (12)	No specific stage
S-3: Steps Towards Violence: Procurement of materials for plot, surveillance, operation planning.	64.4% (87)	100% (87)
S-3: Joins Foreign Insurgency: Travel (successful or attempted) abroad with the intention of taking part in a foreign insurgency.	45.9% (62)	100% (62)
S-3: Non-Violent Support: Materiel, logistical, or financial support to extremist individual or organization.	15.6% (21)	90.5% (19)
S-3: Issues Threats: Communicates violent threats online or in real-life to specific individuals or groups.	11.9% (16)	100% (16)

A good indicator occurs with some frequency and first shows up at the point in the radicalization trajectory anticipated by the model. An indicator may be "a bad fit" in the sense that it occurs rarely or randomly, and therefore does not work as an assessment protocol. But it may also be "bad" only in the sense that the model wrongly attributed it to a particular stage in the radicalization process. Cues that were found to occur out-of-order with the model were reevaluated to see if they turned up consistently earlier or later in the trajectory than predicted by the model. In future reiterations of the analytical schema, the indicator would, in that case, be reassigned to whatever stage in the radicalization process that it most often occurs.

Pre-Radicalization: Cognitive Opening

The pre-radicalization stage is the period before an individual takes decisive steps to put new convictions into action. Legal and moral issues must arise when attempts are made to change the minds of people who are playing with undesirable ideas. Yet this may be precisely the moment when there is an opportunity to intervene, before the radicalizing individual closes his or her mind to other views, and before a crime has been committed. In fact, the window of opportunity exists, but it is easy to miss. The significance of the behaviors associated with the cognitive opening to jihadist extremism may often seem significant only in retrospect, when other, more serious, behaviors become apparent.

In the majority of cases there are overt indications of a period of exploration when the offenders learn the ropes and absorb the lessons of the extremist belief system. One hundred and twenty-five (125) individuals (out of 135) in the study showed signs of behaviors anticipating radicalization. In the case of only 10 subjects was there no publicly available evidence of a period of pre-radicalization. The reasons for missing information about the 10 varied. In some cases information was generally scant while in others it appears that no one noticed. A few individuals radicalized online, stereotypically spending hours on the computer, isolated at home.

The median time taken up by the pre-radicalization stage was just over a year (12.5 months). Since a number of people took much longer to make up their minds, the average time from pre-radicalization to onset of radicalization was two years. So, yes, there generally is time to intervene after an individual has shown signs of sympathies that are inconsistent with the values of liberal society.

Early-stage radicalization assumes many guises. ***Information seeking*** includes research about religion broadly and specifically about Salafi-jihadism. It may be indicated by passive participation in forums and communities, watching jihadist propaganda, or exploring new hardline spiritual settings. ***Authority seeking*** indicates the individual's seeking out or becoming fixated on newfound authority figures. These are examples of pull factors that draw individuals to the extremist ideology. Push factors include traumatic events or other adverse circumstances that may cause an individual to seek a solution in extremism. Overall, pull variables proved to occur with far greater frequency in the offenders' biographies than did push variables. The "fit" of the specific behavioral indicators within the model was generally good. When we identified behaviors thought to be indicative of a cognitive opening to extremism in the subjects' biographies –here referred to as pre-radicalization—the behaviors generally occurred in the first phase of the radicalization trajectory, between 74-85% of the time contingent on the specific behavior. We identified attempts in 77 cases to seek out new religious authorities, but this did not always occur in the initial phase when the subjects explore extremism (74% of the time.) When not indicative of pre-radicalization, searching for new authority figures generally occurred in stage 1. Searching for new religious authority is a reliable and frequent early stage behavior. Typically, this means that the individual turns against the Islam of the parents, rejects the local mosque, or starts obsessively seeking religious instruction online—often all of the above. These types of actions may be innocuous in themselves (even if irritating to family and friends, and local imams). These are not illegal acts, and there is no room for law enforcement at this stage. They are nevertheless warning signs that may be impel concerned family and community members to seek help.

Expressed feelings of disillusionment were especially common. They were found in 57 cases and fell within the anticipated stage of radicalization 80% of the time. ***Disillusionment*** appeared more frequently than other behaviors as the first sequential event, often becoming evident well before other conditions associated with radicalization. We looked for other indicators thought to be associated with pre-radicalization: ***trauma*** (parental divorce or the death of a parent, a serious accident), and ***personal crisis*** (such as drug addiction or incarceration). We expected trauma to be a constant variable that might occur sporadically throughout the process, but in actuality it was an early-stage occurrence in the case of nearly all of the subjects who were identified as having experienced trauma. Personal crises were accurately predicted as pre-

radicalization stage events, identified 76% of the time as a precursor to radicalization. Both factors were relatively infrequent among subjects, which brings into question how important such personal events are for radicalization. Trauma was present in only 26 biographies, while personal crisis was evident in 37. But when they were present, these two push-factors seemed to catalyze the type of searching behaviors that are typical for this phase.

Stage 1: Life Style Adaptation

As anticipated, adaptive life-style changes were prevalent in the next stage of the radicalization process. Stage 1 behaviors entail some degree of transformation in the individual's identity, apparent in outward ***lifestyle changes***. The radicalizing individual begins to adhere more strongly to their newfound ideology, incorporating previously non-existent expressions of piety such as wearing traditional clothing, growing a beard, or abstaining from alcohol and other substances deemed *haram.* Such indicators must be ideologically motivated to be recorded as indicative of radicalization. Occasionally the changes associated with life-style adaption are startling.

Illustration 5.1. "Before" and "After" Pictures of Akba Jihad Jordan

The picture on the left is from Akba Jordan's Twitter profile from 2012. The account primarily has tweets to women and some about mundane topics like Star Wars and Panera Bread. *("@iMurderHOES_ @Kosarbaby just dont let it turn inward. but instread harnest it. conquer it. your either a jedi or a sith" 3/1/2012.)* The picture on the right is from Jordan's Facebook page in 2013. Here his posts start to ask about jihad and Syria *("Brother i wonder if it is hard to get into Syria?" 8/11/2013).* [36]

The "before" and "after" profile pictures (Illustration 5.1) used by Akba Jihad Jordan, a 22-year old man from Raleigh, North Carolina, illustrate how important dress can be to the make-over associated with growing extremism. The first picture shows Jordan wearing smart sunglasses and clean-shaven. In the second posted a few months later, he is seen with a new wispy beard and dressed up with a *kufiyah* scarf. (He and his co-defendant, Avin Marsalis Brown, pleaded guilty to attempting to go abroad to join a foreign terrorist organization in 2014.)[37]

Seventy-three (73) individuals exhibited some outward show of increased spiritual devotion, and in 58 cases (79.5%), these changes appeared as anticipated in the typology. It sometimes proved difficult to obtain information about cues thought to indicate the behavioral changes associated with this stage. Stage 1 information was missing for 12 individuals.

Proselytizing (*Da'wah*) proved to be a less robust variable than anticipated. Some form of *Da'wah* was present in 69 instances (51%), but proved to be not specific to this stage in the radicalization process. Nine (9) individuals undertook *Da'wah* both online and in real life. Proselytizing was an activity that individuals would engage in throughout their radicalization history—we identified a number of individuals who were active proselytizers in stage 1 and in Stage 2 (17 online, and 10 in real life). Real life *Da'wah* often takes the form on setting up a booth for distributing leaflets or communal activities, e.g. prayer groups. In view of the geographical diffusion of the American jihadist movement, online *Da'wah* was considered separately. Since this type of behavior is often regarded as constitutionally protected behavior in the United States it is not generally mentioned in the judicial process, but in any case it is so common at every stage of the radicalization process that it is not helpful for dynamic modeling.

Premature school-leaving, or "dropout," was not a frequent aspect of the radicalization histories of the offenders. (In fact, most of the subjects concluded their education.) Dropping out indicates detachment from normal social obligations and it was therefore hypothesized to be a stage 1 event, but there was no obvious connection between dropping out of school and becoming an extremist. In some cases, the individual's decision to leave school (or college) preceded all the other indicators of radicalization in the subjects' timeline. Najibullah Zazi a 24-year old man, who was arrested in September 2009 in connection with a foiled plot to plant bombs in the New York Subway system, dropped out of school in 2003, well before he showed any signs of radicalization. (See Textbox 5.1 for an outline of Zazi's radicalization history.) Individuals with a history of criminal activities before they became radicalized typically dropped

out of school much earlier. Other offenders dropped out of school immediately before they engaged in terrorist criminality, or stayed in school until they committed a terrorist act, but most finished school.

Of 43 total school dropouts in the dataset, only 21 left school at the predicted stage in the sequence. But dropping out of school would not be better placed in another stage of the radicalization trajectory: 6 dropped out prior to being radicalized, 11 did so coinciding with stage 2 behaviors, and a remaining 5 withdrew subsequent to actively planning for action. Indeed, given the unusual prevalence of dropouts within the study, it seems that leaving school *is* commonplace among terrorist offenders, but they may drop out at an early or late stage in the radicalization process, so it is not an effective dynamic risk assessment tool.

Textbox 5.1. Zazi—A Foiled Suicide Bomber

Najibullah Zazi was born 1985 in Peshawar, Pakistan, where he lived until 1999, when his family moved to the United States, settling in Queens. Zazi started high school, but his grades were poor and he dropped out in 2003. After leaving he worked as a coffee vendor in the financial district of Manhattan until 2009. His street cart displayed a "God Bless America" sign.

Zazi became close with Zarein Ahmedzay and Adis Medunjanin around the fall of 2006. They had known each other since high school but no indication was found that they had been extremists while in school. The first indication of radicalization occurred when Medunjanin gave him recordings of Anwar Al-Awlaki and Sheikh Faisal. Although he continued to attend his family's mosque, Zazi began to seek more information about Islam and increasingly looked online for guidance. By November 2006 the friends were spending a significant amount of time together, often listening to online lectures and discussing their duties as Muslims. That same year, Zazi went to Pakistan to make an arranged marriage with a 19-year-old cousin. The marriage appears to have had little to do with Zazi's radicalization. He fathered two children during visits in 2007 and 2008.

Around January 2008, when Zazi returned to the US from Pakistan, he grew out his beard and wore more traditional clothing. In April the trio solidified their desire to wage jihad and vowed to travel to Afghanistan by the end of the summer. Although they had no prearranged contacts, they flew to Pakistan in August to train with the Taliban. After arriving, they walked around Peshawar looking for someone to bring them to a training camp. In a few weeks they were interviewed by a recruiter and sent to Saleh al-Somali, Al Qaeda's head of operational planning, in Waziristan. Here they were repurposed to carry out an attack in America. Zazi spent four months traveling between Peshawar and Waziristan, where he was trained in bomb making, chemical use, weaponry, and unarmed combat. He was in direct contact with top AQ operators including Rashid Rauf and Adnan Shukrijumah, both of whom focused on coordinating Western attacks. Zazi was excited about martyrdom and the prospect of "sacrificing himself… for the sake of saving other souls."

In January 2009, Zazi returned to the America. He was broke and moved in with his father who had relocated from Queens to Colorado. With his accomplices, he planned an attack on the NYC subway system. In March 2009 British authorities intercepted emails about bomb production between Zazi's AQ handlers and a third party. These emails pointed to his involvement. American authorities began to monitor him, but on September 9, he drove from Colorado to New York City. In New York, his car was towed and searched by agents who discovered notes detailing bomb-making techniques. Aware of being watched, Zazi abandoned his plans and returned home. He was arrested on September 19, 2009 for his involvement in the plot. The attacks were scheduled for mid-September.[38]

We also examined ***disengagement from educational or occupational responsibilities*** as a possible anticipatory indicator of radicalization. The case of Dzhokhar Tsarnaev, the youngest of the brothers responsible for the Boston Marathon bombing, is instructive. Considered a promising student in high school, Tsarnaev was admitted as a fellowship student to one of the University of Massachusetts's campuses but then stopped studying. He was facing expulsion on the grounds of failing grades when he and his brother carried out their attack in April 2013.[39] Unlike dropout, educational and occupational disengagement was less frequently present. It only appeared as predicted in 12 of 25 instances (48%), with the majority of those out of place occurring in stages 2 and 3 of the radicalization trajectory. A more accurate indicator is what can be described as ***underemployment***: the individual seeks work that does not violate a strict code of beliefs or that requires little oversight, often with the aim of raising funds for travel abroad. This was evident in 23 biographies, occurring as predicted in 15 instances.

In sum, drop-out or changes in commitments to school or at the workplace were often apparent but did not occur at the anticipated point of the radicalization trajectory or at any other predictable point. This finding contradicts the common assumption that people turn to extremism because they have suffered discrimination or social exclusion because of their faith. Extremists sometimes self-alienate out of the labor market or professional occupations, but they often stay in school while carrying on with making plans for next steps. It is nevertheless true that life-style changes and detachment from the previous routines of life were signature cues in the offenders' biographies.

Stage 2: Extremist Engagement

All of the behaviors linked to this stage in the radicalization process are overtly extremist. Criminality may be involved, but not necessarily. For the most part these are life-altering behaviors that it is difficult for friends and family not to notice. ***Peer-immersion*** emerged as an exceptionally salient indicator of advancement to action, generally appearing at a predictable point in each individual's radicalization trajectory. Indeed, seeking out and spending time with like-minded extremists can be regarded almost as a prerequisite for motivating the move to action. Of the subjects examined, coders were able to approximate the presence and timeframe of immersive behavior in the vast majority of cases, often with a high degree of certainty. Peer-immersion proved to be precisely located in the expected stage of radicalization in 97% of cases

where it was present (90 of 93 subjects). Peer-immersion frequently occurred in conjunction with other stage 2 behaviors, all of which conformed to the model's expectation with respect to the sequencing of behaviors.

Domestic physical training involving firearm training with other extremists or similar activities was discovered in 46 biographies, or for about one-third of all the subjects. This type of activity nearly always appeared at this stage (91%). The offenders often attempted to create a "pop-up" cell around them by recruiting friends or schoolmates to join in activities that are recommended by jihadist recruiters, e.g. going to shooting range together or fitness training. An example was Shelton Thomas Bell, a young convert to Islam who grew up in a rural county near Jacksonville, Florida. He radicalized quickly over a period of 6-8 months and in May 2012 he began to express a desire to wage jihad.[40] Bell set up what he described as "domestic training" with three other accomplices in preparation for seeking to join a terrorist organization in the Middle East.[41] With his friends, he engaged in nighttime training missions on four occasions in July 2012.[42] Throughout, he produced videos of his sessions to show potential recruits. During their first "mission," symbolically held on July 4, 2012, Bell and a fellow conspirator recorded themselves destroying two statues of Jesus in Jacksonville's Chapel Hill Cemetery after declaring the figures to be "idols."[43] The vandalism was clearly motivated by radical beliefs. Bell and one of his young co-conspirators moved on to attempt to join a foreign terrorist organization. They were unsuccessful and Bell pleaded guilty in March 2014. His juvenile co-conspirators have not been named.

Marriage seeking was only considered an indicator of radicalization if the act was motivated by beliefs. Marriages arranged by parents were not considered an indicator of radicalization, for example. Characteristically, in violation of Islamic religious law, parents are not consulted in these marriage arrangements. Generally, they are informal marriages and sometimes conducted online through online jihadist dating sites without any parental involvement. In fact marriage may be more significant than our coding methodology allows for. The San Bernardino attackers, Syed Rezwan Farook and Tashfeen Malik, met online while he was living in the United States, and she in Saudi Arabia. They were married one month after Farook visited Malik in Saudi Arabia. Marriage to another extremist was a particular important step in the radicalization of the women in the study. Two-thirds (7) of the women sought marriage to a fellow jihadist. It generally occurred in this stage of the radicalization process.

Marriage into the community of extremists is highly recommended by preachers and recruiters, and is one of the ways that the cult of jihadism separates new followers from family and community.

Finally, expressions of ***desire for action*** emerged as a highly salient indicator of progressive radicalization. This variable tracked when offenders started to express willingness to take part in terrorist activity but before any concrete or absolute planning. It was the most prevalent marker, present in 115 subjects. In 111 of those cases (96.5%), the initial expression of a desire for action fell within the timeframe of stage 2 activities.

The extremist ideology tells adherents to disengage from society—e.g. not to vote in elections and to reject family and friends who have not embraced the proper path. We expect that these types of behaviors are common, but the evidence is scarce. ***Societal disengagement***, defined as a rejection of the civic obligations of democracy, or more broadly a rejection of life in the West, was evident in the biographies of only 20 subjects. Where it was found to have occurred it was nearly always in this advanced stage of radicalization (85%). It may be that these expressions of extremism simply go underreported. Many people do, after all, give expression to angry feelings about the political system or society more broadly. In that sense, jihadist rage is not dissimilar from other types of political rage and bystanders may not place much weight on such behaviors.

One of the variables that did not work well was what we called ***epiphany***, defined as a retroactive reconstruction of an offender's biography to claim divine revelations, or a claim by the offender that that they have been called by God to take action and experienced a sudden realization that violent jihad is an obligatory personal act. We did identify examples of claims to revelations but they were too few to prove helpful and when we were able to identify such examples the timeframe for the realization of the revelation (or claim thereof) varied.

Rebellion was another variable that did not work out in the model. The use of the variable was inspired by accounts of offenders berating mosque officials or parents for practicing Islam "wrongly" or, in the case of converts, accusing them of ungodliness. An example is Tamerlan Tsarnaev who was known to have berated the imam at his local mosque in Cambridge for mentioning Thanksgiving and, on the occasion of Martin Luther King Day, offering prayers for a *kuffar*, an infidel.[44] Cues for this variable included an individual acting out against formerly

central life figures on an ideological basis, haranguing individuals at place of worship, or defacing mosque property.

We continue to think that both of these variables are potentially valuable in the assessment of radicalization. It is likely that the reliance of court documents for source material meant that since these types of behaviors are not regarded as criminal acts—even if perhaps bordering on misdemeanor offenses — they go unreported.

Stage 3: Preparing for Criminal Action

Late-stage indicators generally result in criminal actions that led to arrest, departure, or, at the very least, surveillance. With the exception of two occurrences of non-violent support for terrorism, stage 3 markers were consistently associated with this stage. The acts in this stage are all criminal offenses and are typically the reason the offenders ended up in our study in the first place. Indicative in part of changes in law enforcement tactics—particularly related to travel to join a foreign terrorist organization--the time frame for engaging in stage 3 behaviors varied radically over the years. Typically, today offenders intending to go abroad to fight are apprehended in the airport on their way out of the United States. In earlier years, offenders might travel back and forth several times, or as in the case of the Sudbury group discussed earlier, spend years trying to find a sponsor.

Individuals who attempted to ***join a foreign insurgency*** or began actively ***plotting for domestic action*** were fully radicalized by the time of their involvement. Once they engaged in these types of activities they rarely reverted to second-tier activities. If foiled, they would try again until successful or until they were arrested.

The stage 3 behaviors nearly all fell neatly into the stage anticipated by the model. Only low threshold activities in the category of (non-violent) material support for terrorism such as recruiting others to go abroad to fight and fund-raising "bled" into the other phases. Once people committed themselves to the practical steps of preparing to become fully-fledged terrorists, they kept trying until they were arrested or died, or managed to go abroad. Occasionally, individuals who are foiled and then revert to low-level extremist activism before they try again. One instance is Elton Simpson, the Garland, Texas shooter. He was in the initial stages of making plans to join al-Shabaab when he was caught lying to the FBI about his plans. (He never got far with his plans and had not even bought an airline ticket.) Simpson reverted to low-level extremism that did not

arouse the suspicions of law enforcement for 5 years before he attempted to kill the participants in a cartoon-drawing contest intended to lampoon the Muslim Prophet.

Non-violent support for terrorism covers low-threshold activities that while clearly criminal do not put the individual at risk of a violent death. These activities include fundraising for terrorism, efforts to recruit others to join a terrorist organization, and the ***communication of threats.*** A few offenders continued with these activities until taking steps to move on to violence—most often attempting to go abroad to join a terrorist organization.

Summary Evaluation

Overall, the conceptual framework accurately captured the sequential placement in the radicalization trajectory of most of the behaviors attributed to the radicalization process. In more than three-quarters of cases, 14 of the behavioral indicators occurred at the predicted point in the radicalization process. Five (5) indicators appeared as predicted in more than half of the trajectories analyzed. Other behavioral indicators did not seem to be consistently associated with a specific step in the radicalization process or simply did not appear relevant in the way that was originally hypothesized.

The appearance of new religious fervor was a strikingly consistent factor. Olivier Roy has recently argued that the jihadists are revolutionaries by another name. In interviews, Roy recently described jihadism as a "generational nihilistic radicalized youth revolt" that is "more about the Islamization of radicalism than the radicalization of Islam."[45] However, we found no evidence that individuals may become engaged in terrorist offenses without first truly embracing the religious aspects of the ideology. The test for this would be if ANY of the subjects missed at least one of the following variables: becoming a convert to Islam, seeking new religious authority and information about the rules and requirements of Salafi-jihadism, lifestyle changes, or engaging in proselytizing activities online or offline (*Da'wah*). Only 8 of 135 subjects exhibited no overt signs of at least one of the variables on this list. In all 8 cases, we had trouble finding any information for the early stages of the individuals' biographies which suggests that in this case missing information rather that the absences of the specific behavior is the reason for the null finding.

Roy's argument may nevertheless have validity in the sense that the embrace of religion and violent extremism are twinned, as opposed to sequential occurrences, in the process of

radicalization. Logically, for religious conversion to cause violent extremism it should occur before individuals embrace obligations of violent jihad. The role played by religion in driving radicalization is a highly contested question but it is important to note that, in nearly all cases, recent examples of mass shootings aside, parental relationships were fractured by the radicalization of the off-spring. The specific role of generational conflict and how parents react to signs that their child is becoming dangerously radicalized are important questions that deserve further research. It is important also, in this context, to note that, given the average age of terrorism offenders in the mid to late twenties, many terrorism offenders live independent lives with tenuous contact to parents, school, and also employers, because they prefer occupations with little or no direct supervision.

A few indicators proved disappointing. Ideological rebellion and education or occupational disengagement, for example, occurred frequently but randomly across the timelines for radicalization and therefore gave little indication of an individual's progression to radicalization. Moreover, none of the behavioral indicators were found to be present in all 135 cases. In other words, there is no "gotcha" indicator available to make a sure-fire diagnosis of dangerous radicalization.

Jihadist violent extremism is a life-style choice. Acculturation to extremist and violent action involves a process of identity formation that is associated with behavioral changes. Family members are nearly always the first to experience the change. Often the behavioral cues associated with radicalization will be apparent to friends and family, but family and friends may lose contact with the radicalizing individual and fail to notice the extent of the behavioral transformation. Often, the cues are misunderstood. In some instances the changes in behavior are given a benevolent interpretation. A former convict and drug user who joins a new peer group that disavows drug abuse may appear to making progress. Parents may be relieved that a wayward daughter has "found religion."

It proved unexpectedly difficult to identify when conversion occurred. In 2014, Douglas McCain, a Black convert who grew up in Minnesota, became the first American to die fighting for the Islamic State. McCain dropped out of high school and spent years accumulating convictions for offences that ranged from dealing in marijuana to driving without a license. In May of 2014, four months before he died, McCain tweeted: "I reverted to Islam 10 years ago and I must say In sha Allah I will never look back the best thing that ever happen to me."[46] It is,

however, clear that he even after he started to radicalize in 2004 he carried on committing offenses that are considered *haram*—forbidden. Six (6) years later, in 2010, when McCain tweeted about his earlier conversion, he was hanging out with a small group of American-Somalis in San Diego, some of who were radicalized. This was when he became serious. He traveled to visit other radicalized Somalis in Sweden and Canada. By 2012, McCain had created a new persona online, posting content indicative of growing radicalization and a deepening admiration for ISIL. A year later, he traveled to Syria to join ISIL. McCain's radicalization process took about four years, a fairly typical length of time. Everything suggests that McCain backdated his conversion as part of an act of "retrospective biographic reconstruction" to make his past life fit with his new belief system.[47]

There is an important lesson here about why preventive intervention often fails. McCain embraced extremism as a solution to his problems; drugs, petty criminality, aimlessness. It is unlikely that a counter-narrative to his understanding of Islam would have much traction against his personal experience of political extremism as a solution to a problem. Extremism is a problem for society, but in the mind of the radicalizing individual it is an opportunity for redemption and a meaningful life.

6. SEQUENCING RADICALIZATION TRAJECTORIES

Dynamic indicators should identify, either together or in sequence, patterns of behavior that form stages in a process that indicate a high risk of leading to violent action. In theory, thousands of unique possible combinations of behavioral cues exist. In reality, only a handful of sets proved to matter. A "set" is defined as a chronological sequence of two or more behaviors that together define a path leading to a high likelihood of criminal action.

A *triad* is a set of three sequential cues that span at least two stages in the radicalization process. Combinations of verbalized expressions of desire for action, peer immersion, lifestyle changes, and information seeking comprised 4 of the top 5 triads preceding the types of criminal terrorist actions associated with stage 3. Those four indicators appear in the top 6 most frequent indicators. By analyzing the typical sequences of these behaviors we identified some typical dynamic templates for radicalization.

The most common triad included peer immersion (here understood as real-life rather than online peers) followed by expressions of desire for action and preceded by any pre-radicalization

indicator. “Peer immersion” and expressions of “desire for action” were both behaviors that we classified as stage 2 of the radicalization process that preceded the offenders’ attempts to take criminal action. This triad—in this sequence—appears in 46.7% (63) of timelines (Figure 6.1.).

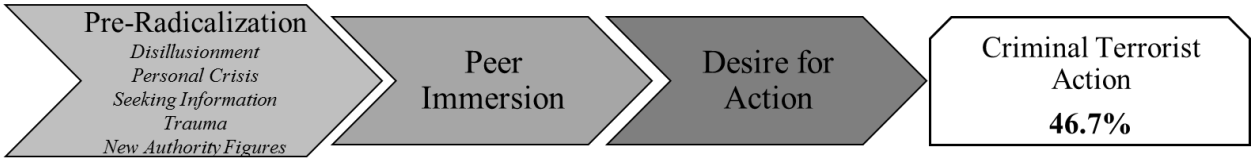

Figure 6.1. Frequency of Triad for Preceding Criminal Action Involving Pre-Radicalization and Combining Peer Immersion with Expressions of Desire for Action

The prevalence of “peer immersion” and expressions of “desire for action” as sequential behaviors was not anticipated. In fact, the reverse sequence, with expressions of desire for action preceding peer immersion appeared only in 8.9% (12) of cases. If this combination of variables indicates conjunctional causality, the rate is 55.6%. The fact that peer immersion occurs before the individual starts to express (publicly) a desire for action highlights the importance of real life peer groups in pushing along radicalization. (Such peer groups typically include cousins, siblings, or school friends.)

Examining the different indicators of the pre-radicalization stage in this triad of behaviors separately, we found that the single most common pre-radicalization behavior leading up to the other behaviors comprised in this triad was an effort to seek out new religious authority. This particular combination of sequential factors (seeking new religious authority, joining up with extremist peers, and then expressing a desire for action) occurred in nearly 25% of cases. (The “seeking new religious authority” variable was coded in a restrictive sense, requiring the individual to attend a new place of worship or to have reciprocal online communication with a radical cleric. Merely following, say, Anwar al-Awlaki online, was not considered a sufficient intense expression of interest in learning about jihadism.)

Other important pre-radicalization behaviors associated with radicalization were what we described as “information seeking,” essentially deliberate efforts to seek education in the jihadist belief system (~24% of cases). Less important were secular expressions of discontent, such as expressions of disillusionment with “the system” or “the state of Muslims in the world.” Both were less important frequent risk factor presaging the peer-immersion and the desire-for-action combination occurring only in 16.3% (22) of the cases.

Some forms of behavior associated with stage 1 (early, but overt, radicalization) also reliably anticipated later terrorist activity. Again, real-life peer immersion and public expressions of desire for action feature prominently. This triad of sequenced behaviors was observed in 34.1% (46) of the offenders' trajectories when preceded by any stage 1 indicator (Figure 6.2.). The most common stage 1 indicator in this triad was lifestyle changes, which occurred in 23.7% of cases (32). More often an individual verbalizes interest in carrying out violence *after* having become immersed in a radical peer-group, suggesting that peer-immersion is central to the process. Generally an individual is not fully radicalized until he or she seeks out contact with like-minded peers.

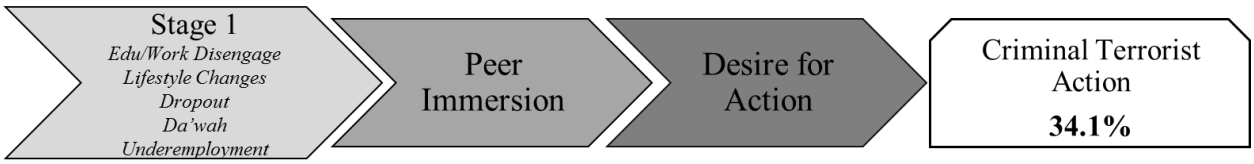

Figure 6.2. Rates of Peer Immersion and Desire for Action as a Triad with Any Stage 1 Indicator

Another relatively common triad comprised any of the indicators that we used to estimate pre-radicalization followed by overt life style changes and then by expressions of desire for action (but not conditional on peer immersion). This is found in 36.3% of cases. The fourth most common triad similarly started with any of the pre-radicalization indicators, but was followed by the individuals' search for new extremist authority figures and then by expressions of a desire for jihadist action (32.6%). Overall, the analysis of the combinational logic of triads pointed to the singular importance of peer groups—over all other factors—in pushing radicalization.

The likely explanation for the observed regularities in the process of radicalization is that these "scripts" for action as provided by proselytizers compel homegrown terrorists to engage in prescribed behaviors. It would seem to follow that these scripts—and the associated behaviors they inspire—will change to suit the specific tactics and strategic objectives of the terrorist recruiters. (This is, of course, a testable hypothesis.)

7. THE SOCIAL MEDIA GENERATION

Social media has fundamentally changed the social organization of jihadism, perhaps most particularly in the United States where preachers and recruiters for the jihadist belief system are thin on the ground. Jihadists are on mainstream platforms like Facebook and Twitter. They use

any number of social media apps for redirecting traffic and to communicate privately with targets of opportunity for recruitment.[48] Individuals who aspire to take part in the community are no longer required personally to seek out extremist locales, but can do so from their own homes.

Social media companies, especially Twitter and Facebook, have been severely criticized for allowing jihadists to openly recruit online. Growing support for the suppression of online extremism threatens the accustomed freedoms of social media for everybody. Nevertheless, some experts argue that fears of internet radicalization may have been overdrawn. John Mueller and Mark G. Stewart have warned that just because terrorists are *caught* online we should not conclude that they are *made* online.[49] Overestimating the role of the internet in encouraging Islamist terrorism may lead to curtailment of internet freedoms with no real gains in security or prevention.

Researchers studying online radicalization have also cautioned against overestimating the importance of online "self-radicalization", the process by which an individual adopts extremism and learns to become a terrorist entirely through online communications. In his study of online extremism, Gabriel Weimann described worries by law enforcement that individuals can go through online terrorist learning programs and graduate ready to carry out an attack as "exaggerated and misplaced." Weimann added, "They [terrorists] are motivated, taught, recruited, incited or even trained by external sources; they display a degree of commitment to and identification with extremist movements; in other words, their solitary actions do not take place in a vacuum."[50]

Online radicalization is not a new phenomenon. Jihadists have used the internet to push out propaganda since the 1990s. (The first English-language jihadist website, Azzam.com, was created in 1996 by a 22-year old Imperial College, London, undergraduate Babar Ahmed, and registered in Connecticut.) A study of 15 British extremists conducted by Charlie Edwards and colleagues with assistance from British law enforcement groups supported Weimann's skepticism. The study comprised 10 individuals who were in post-prison probation programs and another 5 who were referred by the British authorities to a de-radicalization program known as Channel. The authors concluded: "The evidence from this research does not support the suggestion that the internet has contributed to the development of self-radicalization. In all the cases that we reviewed during our research, subjects had contact with other individuals, whether virtually or physically."[51]

But is the community of researchers perhaps simply not up-to-date on the social media revolution? Did things not change with Twitter and Facebook, and then Instagram, Snapchat, and many more apps that are used for decentralized file sharing and intimate networking? Emerson Begolly, a young Pennsylvania man was described as an "extremely dangerous" example of online self-radicalization by law enforcement when he was arrested in 2010 (see Textbox 7.1.).

Textbox 7.1. Online Self-Radicalization—The Case of Emerson Winfield Begolly

On January 4, 2011, Begolly, a 21-year old man from Pennsylvania was arrested in connection with Al Qaeda-inspired terrorism. Begolly was an occasional college student and was living at home. He became active online in 2008 or 2009, and rose to become a manager of the Ansar al-Mujahideen English Forum, an Al Qaeda-affiliated internet forum. He used several aliases including "Abu Nancy" (meaning "father of an imaginary daughter"), "Goatly", and "Asadullah al-Shishani." Through the forum Begolly made contact with a number of individuals who were subsequently convicted of violent terrorism-related crimes. Among them were Zachary Chesser, Colleen LaRose, who was convicted in a plot to kill Lars Vilks, a Swedish artist who had become the object of jihadist rage for drawing "insulting" pictures of the Muslim Prophet, and another youth, Muhammad Hassan Khalif, who used a fraud scheme to arrange for LaRose's travel. Begolly was also in touch with Khalid Aldawsari, a Texas man who was sentenced to life in prison in 2012 on charges of attempting to build a weapon of mass destruction. He communicated online with at least one British jihadist, Muhammad Gul, who was arrested in 2009.

Online, Begolly advocated attacking Jewish targets, financial institutions, civilian planes, trains, and military installations. He uploaded a 101-page manual providing instructions for how to manufacture a bomb, and also provided instructions on how to use explosives, purchase firearms, and armor a car with propane tanks. He glorified the executions of Daniel Pearl and Nick Berg, posting comments that "Allah commands us to terrorize the *kuffars* [the infidels]." When his parents' home was searched, Begolly was found to be in possession of a large arsenal of firearms. (See picture, Source: Weapons Cache found upon arrest of Emerson Winfield Begolly. USA v. Begolly. Exhibits in support of detention of Emerson Begolly.).

Begolly advised his followers to "never to be taken alive" and to always carry a gun. He did his best to follow his own recommendations. When arrested in a parking lot of a fast food restaurant near Pittsburgh, he reached for a loaded 9 mm semi-automatic handgun concealed in his jacket and then bit the FBI agents when they restrained him. The U.S. attorney prosecuting the case described Begolly as "influential", "a clear threat", and "a severe danger to the community." But a different picture of Begolly's radicalization emerged from the background facts, far less threatening than the case made by the prosecution. Begolly lived at home and was arrested in his mother's car. His mother assisted the FBI because she wanted her son, who has Asperger's syndrome, to get help. Begolly's father reportedly is (or was) a right-wing extremist. The father also had a large cache of weapons in the house. Begolly had previously flirted with far-right extremism and pictures were found of him wearing a Nazi uniform. In court, Begolly pleaded guilty and apologized for having brought shame on his family. He was sentenced to 8.5 years in prison.[52]

Begolly never met another jihadist in real life, but ended up playing a role as a connector between an Al Qaeda operative in Ireland plotting to kill a man in Sweden with the help of an American woman, Colleen LaRose. Exactly how dangerous the two were is subject to interpretation. LaRose ended up calling the FBI to get help to come home. Begolly fit the picture of dopey teenagers lost to online fantasies. Internet recruiting helps terrorist organizations reach into new pockets of the American demographics but provide no opportunity for the recruiters to screen the volunteers for competence.

2010 was the swing year. This is when the file-sharing of jihadist recruitment emerged as the primary proselytizing tactic. *Inspire* magazine was first published in June of that year. An "e-zine"—a glossy online magazine that is distributed through social media—the magazine transformed jihadist proselytizing. The brainchild of Anwar al-Awlaki and Samir Khan, who grew up in Queens, N.Y., and moved to Yemen in 2009, *Inspire* is published in English and preaches the gospel of "Do-It-Yourself" terrorism. The concept of "Open Source Jihad" was introduced in the second issue: "Look no further, the Open Source Jihad is now at hands reach (*sic*)." The second issue, published in October 2010, gave instructions on how to use a pick-up truck "as a moving machine, not to mow grass but mow down the enemies of Allah." In recent years most, if not all, Americans who have been arrested in connection with jihadism-inspired terrorism have been in possession of the online magazine.

After the time lines for the offenders' radicalization process were charted, an assessment was made of each individual case from the evidence collected as part of the forensic biographies if the offenders' initial contact with extremism and early stages of radicalization occurred online or in contacts with one or more friends or a family member who motivated them to engage with extremism. Of the 135 offenders included in our detailed study, 55 were radicalized in 2010 or in the following years (Table 7.1). Of those offenders, 26 were initially radicalized though online communications—a nearly 50-50 split between real-life sources (mostly friends or family) and online inspiration. Among the 80 offenders who had been radicalized before 2010, over 60 were assessed to have radicalized initially though personal contacts. (The consumption of propaganda accessed through the internet was important throughout all years and in all cases.)

After 2010, 26 offenders were identified who we judged to have initially radicalized online. In some of these cases, the individual quickly took the initiative to meet with a person

they had met online. In 10 of these cases, the person in question was arrested after making contact with an undercover agent.

Table 7.1. Initial Source of Impulse to Radicalize by Cohort Years, Number of Individuals

Year of Radicalization:	Online	Real Life	Missing	All Offenders by Cohort
Pre-2010	17	61	2	80
Post-2010	26	27	2	55
All	43	88	4	135

Explanatory Note: N = 135.

Among the 26 who were assessed to have been radicalized exclusively or primarily through online contacts, 17 were converts and appeared (although it is hard to say for sure) to have been converted to Islam through their online self-study or contacts. This suggests that converts are far more likely to become radicalized online than through real-life contacts. 5 of these 17 converts were women. In fact, online radicalization is the most common way for women to become engaged in jihadism.

Nevertheless, it is questionable if the term "self-radicalization" is an apt description of what goes on online. The offenders were discovered online, but they radicalized in parallel between online and real-life self-enactment, or in small groups of peers. Social media played a role in all of these cases, both as a tool for communicating with recruiters, and as the ubiquitous source of information about "what to do," but it was direct peer involvement that primarily drove the rapid progression to illegal action in most of these cases. "Internet-assisted co-dependent radicalization" may be a more appropriate phrase.

Women Online

Women who were radicalized before 2010 were also initially radicalized through their online contacts. There are 8 women in the post-2010 group, 5 of whom were radicalized through online contacts online and three who were not. Interestingly, 7 are converts. In all there were 25 women in the broader dataset, but their radicalization trajectories were often difficult to pin down, perhaps because the initial engagement was primarily conducted online. Overall, women were likely to be recruited through online contacts in both time periods. Colleen LaRose was described by family members as having treated the extremist forums that she frequented as online dating services.

Marriage or promises about marriage feature in nearly all of the cases involving women, but some men also find love online. Zachary Chesser, for example, met his wife online first and then married her after a brief period of internet dating. But women are primarily recruited through promises of marriage, perhaps to the imaginary warrior figures they encounter online. (Sometimes the marriage proposals are fabrications.) One reason that women were identified as particularly likely to move from initial radicalization to action may be that they typically did not engage in activities that implied an immediate high risk to life. Nevertheless, it is clear that the women are usually woefully ignorant about the risks to their personal safety, and willfully ignore obvious risks.

Textbox 7.2. Female Self-Radicalization—Hoda Muthana

Hoda Muthana, a 20 year old from Hoover, Alabama, was studying business at the University of Alabama when she went to Syria in 2015. Her parents had immigrated to the US from Yemen in 1992 but Hoda and all of their children were born in the U.S. The father tried to enforce "old country" rules in the family. Reports are that Muthana had no friends and supposedly she became more devout after her graduation. Muthana and her sister were forbidden to have social media accounts or to talk to anyone who was not a relative. After she graduated from high school in 2013, Muthana received a smartphone as a present from her father but when he discovered she was using Facebook on her phone, the father started regularly checking her phone but found only apps related to Islam, e.g. on Hadiths and the Qur'an. Nevertheless, she managed to maintain a Twitter account.

In interviews conducted over kik, an encrypted app, Muthana later explained to a journalist that she became interested in jihadism (which she described as "Islam") in 2012, just before her graduation from high school. She began planning to move to Syria in November 2013 and one day, a year later, she left home and travel to Syria to join ISIL. She had claimed that she was going on a class trip and then called her sister the next day to say where she was going. When her father called her, she was already in Syria. She paid for the ticket using her tuition money. In December 2015, Muthana called her family again to say that she wanted to come back home and asked money. The family refused, and next time she called it was to say that she had married an Australian fighter with ISIL. She was then calling herself "Umm Jihad." Her husband was killed in airstrikes in March 2015 after had been married for 87 days. Muthana was radicalized online through her hidden Twitter account, which she also used to communicate with extremists linked to ISIL. One such contact was Aqsa Mahmood, a Scottish jihadi bride. Muthana's

handles included @ZumarulJannah and @AhlulDhikr. Her public tweets were inflammatory: "Terrorize the *kuffar* [infidel] at home," she tweeted, "Americans wake up!" [53]

The zeal and determination with which a radicalized woman may pursue her goals is striking. Hoda Muthana, a 20-year old woman from Alabama, was raised in a strict Muslim household. Although her parents restricted her access to the internet, she still managed to partake in online communities and eventually radicalized primarily through these online channels (see Textbox 7.2.). Her covert use of technology eventually enabled her to successfully travel to the Islamic State.

Another example of this fervor is Shannon Maureen Conley, a 19-year old Colorado woman, who was living at home with her parents. She first drew attention to herself in October 2013 when she turned up at a church that had been subject to a mass shooting in 2007, attending service while wearing her Muslim headscarf and making notes about the layout of the church. When church workers started to talk to her she became hostile and babbled about terrorism. She later admitted that she had been doing a "recognizance" exercise. It is unclear if she did this on her own initiative or was following instructions. Conley was involved with a 32-year-old Tunisian man online, who was (allegedly) an ISIL fighter in Syria and who had promised her marriage. Conley was also in contact with "a sister" in Syria. Conley is a nurses' aide and planned to become a nurse if she was not allowed to fight. Her parents collaborated with the FBI and the FBI agents met with her, telling her that they were from the U.S. government and that she would be arrested if she carried on. She paid no heed, and was arrested in April 2014 at Denver airport and charged with attempting to join ISIL.[54]

Fast-Track Radicalization

Fast-tracked radicalization may be defined as an exceptionally speedy progression from an initial overt expression of loyalty to extremism to violent action. We identified four instances of individuals who radicalized in 6 months or less (from start to death or arrest), all from 2014 or 2015. In no instance was the internet the sole or even the primary source of influence.

Rapid radicalization appears to depend on contact with a person who supports and enables radicalization. Hasan Rasheed Edmonds, a 22-years old African-American man, was radicalized by his 29-year old cousin, Jonas Edmonds. In a conversation with an undercover agent, Hasan explained: "Yunus [Jonas] did it before me. He was the one whom [sic] first brought it to my attention maybe the same month it was announced. Then after I looked into it

for myself I gave my oath *afrer asr* [referring to the third prayer of the day]. And we have been planning ever since."[55] Jonas Edmonds had a wife and 5 children, whom he planned to move to ISIL-controlled territory in Iraq. Hasan Edmonds was an Army National Guard Specialist from Aurora, Illinois. The cousins not only wanted to travel abroad to join ISIL, but they also plotted to attack a military base in Illinois. Both were arrested in March 2015, and they pled guilty to providing material support to ISIL in December 2015.[56]

A couple, Mohammed Dakhlalla, 22, and Jaelyn Young, 20, also radicalized rapidly. They were arrested when they attempted to fly to Turkey with the intention of going on to the territory controlled by the Islamic State. Both had attracted the FBI's attention in May 2015 because of their social media postings. Young had converted to Islam in April, a month earlier, after she was persuaded that the Koran is more "authentic" than the Bible, because the Koran had not been "perverted" by translation. (Translation of the Koran is considered "forbidden" by certain branches of Islamic orthodoxy.) Young and Dakhlalla both attended Mississippi State University and were unlikely ISIL recruits. Young was a former cheerleader and high-school homecoming queen.[57] Dakhlalla, the son of an *imam*, showed no overt indications of a militant mindset until he and Young joined forces. Young later complained to an undercover agent that her fiancée's Muslim parents were insufficiently "Muslim" because they did not support "Dawlah", the Islamic State.[58] The two entered a *nikkah*, an unofficial Islamic marriage. Women are not allowed to travel unescorted, following the rules of ISIL, and it may be that the marriage was simply an instrument for Young's ambition to travel to the Islamic State. After their arrest, Young told the FBI that she had taken the lead, drawing Dakhlalla along with her. She pleaded guilty to charges in March 2016.[59] In August 2016, Young was sentenced to 12 years in prison and Dakhlalla was sentenced to eight years.

The fourth example of fast-tracked radicalization was a young American-Somali, Abdullahi Yusuf, who also was drawn in by a friend, Abdi Mohamud Nur. The duo helped each other travel to join ISIL in 2014. Nur made it to Syria, but Yusuf was arrested at the airport. They worked as a pair, pulling each other in to the ideology.[60] Their role model was Muhamed Abdullahi Hassan, who was known online as "Mujahid Miski." Miski is also a Somali-American from Minneapolis and a notorious recruiter for ISIL. The two teenagers used social media to communicate with him. Miski was indicted in absentia by the U.S. government in 2009. He was 17 when he joined al-Shabaab.

Online recruitment has turned American jihadism into a dispersed community of suburban bedroom cells and small local groups. Since 2010, internet-based radicalization has grown significantly in scope and in importance. Yet this rarely means that the would-be terrorist is sitting at home, alone, behind a computer until he or she are ready to act. Our study generally supports researchers' skepticism that internet-based terrorist recruitment will supplant real-life social contact between like-minded individuals as the principal instrument for radicalization. Rarely do we find that the process is without local real-life reinforcement through get-togethers between the co-conspirators to watch jihadist material or online networking. Online radicalization very quickly translates into real-life social organization. Even if initially radicalized online, the offenders we studied quickly moved on to form "pop-up" groups around themselves. Real-life co-dependency is the most efficient and fastest path to extremist actions. Siblings and real-life friends or co-conspirators acquired through marriage commonly join together on a fast route to doing "something."

On the margins, we uncovered exceptions. Women and converts to Islam are far more likely to radicalize online, and women are nearly always initially radicalized through online contacts. Even though they too usually reach out to involve someone else in their transformation, women who initially radicalize online are more likely to typify the lone-wolf self-radicalization model by radicalizing largely in private.

8. FUTURE DIRECTIONS

Assuming the promise of the findings laid out here continues to be supported by applied research and with more data, it would seem that the use of a dynamic assessment protocol focused on behavioral changes can provide practitioners with a better understanding of how radicalization occurs among U.S. homegrown violent extremists inspired by ISIL or Al Qaeda affiliated groups, as well as provide ways of identifying individuals who may be in the process of radicalization.

Our research reveals a standard route to action in support of terrorist objectives, whatever the initial motivation, that follows a relatively predictable sequence of steps. Ideology is a steering tool. It is the ideology and the behavioral changes and adaptations required by the Salafi-jihadist belief system that gives a predictable structure to the radicalization process. But terrorist scripts change in accordance with the needs and tactics of terrorist groups, and the pace

of radicalization varies in systematic ways across demographic groups. Therefore, evidence-based risk assessment protocols need to be constantly updated through iterative testing against case files, and adapted to take account of the changing action scripts advocated by recruiters and the purveyors of extremist ideology.

The diversity of the subjects analyzed here indicates that no uniform "terrorist psychology" is at play. Many of the American homegrown offenders are converts who grew up in Christian homes. Among the those who come from Muslim families, some have grown up in religious households and others have not. Most are high school graduates and many are college educated or have some college education. A few even have advanced degrees. Others have engaged in violent crime or drug crime before they became inspired by an extremist belief system spun from Islam with which they have no natural connection.

The radicalization trajectory nevertheless tends to converge on a common template, albeit with important variations with respect to the specific behaviors and actions, and the time-frame for how long it takes for different individuals to mature to take action varies greatly. From the vantage point of prevention, the variability of the pace of radicalization is obviously problematic. While true that many act quickly, many more people take considerable time to move on to attempt a climatic act.

Writing about the use of risk assessment protocols for prevention, Karl Roberts and John Horgan acknowledged that a risk assessment model may be helpful, and even necessary, to the prioritization of counterterrorism tactics, but identified two problems that make it more difficult to use risk assessment in counterterrorism than in the assessment of ordinary criminals.[61] One is the fact that terrorist incidents are rare and we therefore have only limited data from which to make inferences about terrorist behavior. The other issue is that the utility of risk assessment protocols is contingent on radicalization becoming expressed through overt and observable behavioral changes that bystanders—including law enforcement—are able to discern. The study has shown that this is a fair assumption in the case of homegrown terrorism, where the radicalizing individual typically goes through a process of political and ideological awakening and experiences strong impulses to convert others to the cause.

Empirical modeling and testing of a widely-agreed upon model of common pathways to violent action motivated by extremist belief systems would seem to be essential to the development of better tools for risk assessment. Realistically, quick-response research of the type

required to keep up with the threat posed by returnees from the ISIL insurgency requires information sharing across jurisdictions and collaboration between research teams.

Our study relied on a conceptualization of the radicalization trajectory derived from the NYPD model, which hypothesized the existence of four identifiable phases. We found significant overlap between behaviors attributed to the initial phase, here described as pre-radicalization, and stage 1 of the radicalization process, suggesting that either the schema needs to be improved—or that the initial phases of radicalization are more fluid.

Testing by an Australian team of government psychologists who were provided with a copy of the codebook suggested some necessary changes to the conceptualization of the later stages in the model, which in reality are comprised of a planning stage (stage 3) and then action (stage 4) leading to execution (zero hour). Typically, researchers working with publicly available documentation would not be privy to relevant data.[62] Then there is the question of which behavioral indicators best anticipate significant behaviors. The Australian team found that educational and occupational disengagement is a common indicator, which occurs very close to an action, suggesting that it is, in fact, a red flag. Some behaviors that did not work in a dynamic model but nonetheless may be assumed to be relevant and could be seen as what sociologists call distal risk factor, a risk factor that denotes an underlying vulnerability. The Australian team pointed to a loss or absence of male mentorship or role models in the family or the immediate environment as a common theme. Drug use is another frequent distal factor. Drug use is of course religiously prohibited but in reality the trading of drugs and use of drugs—and gang membership—are common occurrences in the biographical profiles of jihadist terrorism offenders, albeit more so in Europe and Australia than in the United States.

In 2015, Dylan Roof, a White Supremacist, killed nine people in an African American congregation in Charleston, S.C. In 2016, Gavin Eugene Long, a member of the anti-federalist Sovereign Citizens shot six police officers in Baton Rouge, LA. Superficially, these "lone actors" appear to have some things in common with the jihadists. The question is often raised whether radicalization to violent extremism is perhaps not "the same" across ideologies, and the essential factor is simply some pathology of extremism. This may be true in so far as networks and detachment from ordinary life are the essential elements of the recruitment to cults and sects—or gangs. But if the process appears to be similar, the drivers are different and the overt behaviors

signifying progressive radicalization are also different. At this level of abstraction little can be learned that is of practical use for crafting intervention programs to address violent extremism.

Further research is required to determine if and how the findings apply to other types of violent extremism. An effort was made to develop comparative study groups comprised of eco-terrorists, the anti-federalist Sovereign Citizens, and a number of other groups inspired by ideologies that advocate terrorist action or political violence, to assess similarities or differences in the radicalization processes associated with different ideological beliefs. It proved to be not possible to obtain the detailed information required for estimating the sequencing—let alone the time frame—for radicalization in these cases, in part because of differences in reporting standards in older terrorism cases. (Many of these cases date to the 1990s.)

Our research highlighted wide differences in social background and age between the different brands of violent extremism.[63] Anti-federalist and anti-abortion extremists are, on average, far older and less educated than are the jihadists. The eco-terrorists and the jihadists have some similarities in terms of social background favoring a young and college-educated population groups—but their lifestyle choices were radically different. It therefore must be assumed that while some core similarities exist—e.g. self-alienation from family and productive engagement with institutions of education or employment—are common features, the specific behaviors vary because of the different action scripts for followers advocated by the ideologies.

Another question is if the FBI's current guidelines set forth in the FBI's Domestic Investigations and Operations Guide (DIOG), last revised in 2013, gives the FBI sufficient time to apply a dynamic assessment tool when carrying out assessments of individuals who have come to the agency's attention, often in response to reports from the public. (Assessment here has two meanings, as in the use of an assessment protocol along the lines proposed here and the low-level assessment that the FBI is authorized to carry out based on publicly available sources.)

Law enforcement officials occasionally complain that they have too little time to catch terrorists because radicalization occurs rapidly. It appears that the opposite may be a problem. Radicalization is often a slow process that may not be captured through a snapshot assessment of an individual, and may require a time horizon that extends well beyond the six months that the FBI is currently allowed to keep an open low level assessment. It is not possible on the basis of the research conducted as part of this project to determine if, indeed, freedom to keep investigation going for a longer period of time will be conducive to better outcomes. A

countervailing concern is that extending the time frame for open investigations will cause an increase in the FBI case load which may very well be counterproductive. The critical issue facing local and federal law enforcement today is how to prioritize the case load and who to select for further investigation rather than expanding the list of people to watch.

Giving law enforcement with greater latitude to assess individuals suspected of becoming dangerously radicalized by extremist ideologies may raise concerns about infringement on civil liberties. How to balance enforcement tactics against the protection of civil liberties is not a question that can be resolved through research. Terrorism is intended to provoke public fear and social polarization, and to delegitimize authority. In this the current wave of ISIL-inspired mass terrorism has been remarkably successful. The jihadist campaign against America has imposed high costs on the nation in lives lost and money spent on prevention. It has also stigmatized Islam and Muslims as enemies of democracy and American society. When weighing the cost of affording the FBI and other federal and local law enforcement agencies greater leeway to track and assess dangerousness against the right to hold extreme views and engage in extremist behaviors that may be precursory to terrorist crimes, the eagerness of the jihadists to inflict massive civilian casualties and their divisive impact on society have to be kept on the scales.

NOTES

[1] Kevin Johnson, "Comey: Feds have Roughly 900 Domestic Probes about Islamic State Operatives," *USA Today*, 23 October 2015.

[2] Several reports have appraised the spike of arrests and record number of Americans who have joined—or attempted to join—ISIL. The exact number of arrests and attempted "foreign fighters" vary slightly from one source to the other, contingent on the publication data and on the selection criteria used by the researchers, see: Elah Izadi, "N.Y. Man Accused of Plotting New Year's Eve Attack in Support of Islamic State," *Washington Post*, 31 December 2015; "2015 Sees Dramatic Spikes in Islamic Extremist Arrests," *Anti-Defamation League*, 21 March 2016; Charles Kurzman, "Muslim American Involvement with Violent Extremism, 2015," *Triangle Center on Terrorism and Homeland Security* (2 February 2016): 1-12.

[3] The methodology and preliminary findings were presented in Jytte Klausen, Selene Campion, Nathan Needle, Giang Nguyen, and Rosanne Libretti, "Toward a Behavioral Model of 'Homegrown' Radicalization Trajectories," *Studies in Conflict & Terrorism* 39, no. 1 (2016): 67-83.

[4] A fact sheet issued in November 2015 by the Brenan Center for Justice at New York University School of Law categorically denied that are "visible signs that law enforcement, family, and teachers can identify" and asserted that "there is no typical trajectory that a person follows to become a terrorist"; see *Countering Violent Extremism: Myths and Facts*, accessed September 12, 2016, from https://www.brennancenter.org/sites/default/files/analysis/102915%20Final%20CVE%20Fact%20Sheet.pdf.

[5] Faiza Patel, "Rethinking Radicalization," New York University School of Law: Brennan Center for Justice.

[6] Eric Lichtblau and Matt Apuzzojune, "Orlando Gunman Was on Terror Watchlist, F.B.I. Director Says," *New York Times*, June 13, 2016.

[7] Jytte Klausen, Tyler Morrill, and Rosanne Libretti, "The Terrorist Age-Crime Curve: An Analysis of American Islamist Terrorist Offenders and Age-Specific Propensity for Participation in Violent and Non-Violent Incidents," in "Special Issue Dedicated to the 20th Anniversary of the Oklahoma City Bombing," special issue, *Social Science Quarterly* 97, no. 1 (2016): 19–32.

[8] "The Role of Social Networks in the Evolution of Al Qaeda-Inspired Violent Extremism in the United States, 1990-2015." Principal Investigator: Dr. Jytte Klausen. The U.S. Department of Justice, Office of Justice Programs/National Institute of Justice Final Report, Award # 2012-ZA-BX-0006. Brandeis University, March 2016.

[9] ISIL disagrees with Al Qaeda only on the tactics not on the ultimate objective of the violent *jihad*. For a description of the history of the merger of Salafism with revolutionary objectives, see Gilles Kepel, *Jihad: The Trail of Political Islam*. Cambridge, Mass.: Belknap Press of Harvard University Press, 2002.

[10] Ellen Nakashima, "At Least 60 People Charged with Terrorism-Linked Crimes This Year— a Record," *Washington Post*, 25 December 2015.

[11] Charlie Edwards & Luke Gribbon (2013) Pathways to Violent Extremism in the Digital Era, The RUSI Journal, 158:5, 40-47; John Mueller and Mark G. Stewart. "Terrorism, Counterterrorism, and the Internet: The American Cases." *Dynamics of Asymmetric Conflict* 8, no. 2 (2015): 176-190.

[12] The use of the term to designate "domestic fighters" as well as "foreign fighters" is a classic example of "conceptual stretching", the adaptation of a category to include a broadening range of occurrences that may not really be instances of "the same." David Collier and James E. Mahon Jr,

"Conceptual 'Stretching' Revisited: Adapting Categories in Comparative Analysis," *The American Political Science Review* 87, no. 4 (December 1993): 845-855.

[13] Right-wing anti-government terrorism is usually referred to as "domestic terrorism."

[14] Tashfeen Malik, one of the San Bernardino shooters and the wife of Syed Rizwan Farook, an American citizen, appears to have been an example of someone who arrived wanting to strike but waited for years, see Richard A. Serrano and Brian Bennett, "San Bernardino Shooters Began Plotting Attack Before Their Marriage, FBI Chief Says," *Los Angeles Times,* 9 December 2015.

[15] The Canadian protocol is the most detailed. See: "Risk Assessment Decisions for Violent Political Extremism," 2009-02, Public Safety Canada, Government of Canada. The FBI uses a cumulative risk model borrowed from the United Kingdom's Prevent program: "An individual becomes at-risk when three elements are present: threat, vulnerability, and consequence. These three elements are not independent of each other, but, rather, all must be present to result in an at-risk individual. The sum of these three elements equates to an individual's risk, which considers motivation, intent, capability, opportunity, and psychological gain from acting on intentions." Quoted from "A New Approach to Countering Violent Extremism: Sharing Expertise and Empowering Local Communities," FBI Law Enforcement Bulletin, 7 October 2014.

[16] "Behavioral Indicators Offer Insights for Spotting Extremists Mobilizing for Violence," *National Counterterrorism Center*, 22 July 2011.

[17] Elaine Pressman and John Flockton. "Calibrating Risk for Violent Political Extremists and Terrorists: The VERA 2 Structured Assessment," *British Journal of Forensic Practice* 14, no.4 (November 2012): 237–251.; "The Role of Dynamic Risk Factors in VRA," Intelligence 2, no.8 (Winter 2014).

[18] John Horgan, "From Profiles to Pathways and Roots to Routes: Perspectives from Psychology on Radicalization into Terrorism," in "Terrorism: What the Next President Will Face," special issue, *Annals of the American Academy of Political and Social Science* 618, no.1 (July 2008): 80–94, 81.

[19] Randy Borum, "Radicalization into Violent Extremism I: A Review of Social Science Theories," *Journal of Strategic Security* 4, no.4 (2011): 7–36; Jeremy Ginges and Scott Atran, "What Motivates Participation in Violent Political Action," *Annals of the New York Academy of Sciences* 1167, no.1 (June 2006): 115–23; Angela McGilloway, Priyo Ghosh, and Kamaldeep Bhui, "A Systematic Review of Pathways to and Processes Associated with Radicalization and Extremism Amongst Muslims in Western Societies," *International Review of Psychiatry* 27, no.1 (2015).

[20] Readers are directed to Randy Borum's fine review summarizing the literature on radicalization theories: Borum, "Radicalization into Violent Extremism I," 7–36.

[21] Mohammed Hafez and Creighton Mullin, "The Radicalization Puzzle: A Theoretical Synthesis of Empirical Approaches to Homegrown Extremism," *Studies in Conflict & Terrorism* 38 (2015): 959.

[22] Fathali M. Moghaddam, *From the Terrorists' Point of View: What They Experience and Why They Come to Destroy* (Westport, CT: Praeger Security International, 2006).

[23] Mitchell D. Silber and Arvin Bhatt, "Radicalization in the West: The Homegrown Threat," City of New York Police Department (2007): 6-8.

[24] David Collier, "Understanding process tracing." *PS: Political Science & Politics* 44, no. 04 (2011): 823-830.

[25] Sometimes, data points were inferred by triangulation with other data points. If a court document described an individual as having attempted to go abroad in September, and a family member recalls that the individual began training with firearms about 6 months earlier, "domestic training" would be coded as March and assigned a score of two. When more specific dates could not be ascertained, coders were told

to infer from the context if the event occurred in the first or the second half of the year. Each data point entered was rated on a three-point scale: a score of one indicating precision, two being accurate within a month, and three denoting estimation with a margin of error of up to three months.

[26] Mary Joyce, "Picking the Best Intercoder Reliability Statistic For Your Digital Activism Content Analysis," Digital Activism Research Project, 11 May 2013.

[27] Robert Mackey, "Americans Arrested For Plotting 'Violent Jihad' Abroad," *The Lede*, 28 July 2009; United States of America v. Daniel Patrick Boyd et al., Indictment (United States District Court District of Eastern District of North Carolina, 22 July 2009); United States of America v. Daniel Patrick Boyd et al., Superseding Indictment (United States District Court District of Eastern District of North Carolina, 24 July 2009). See also: United States of America v. Daniel Patrick Boyd et al., Detention Hearing Exhibit 29 (United States District Court District of Eastern District of North Carolina, 5 March 2008).

[28] An incident involving three girls from Colorado (two sisters [17, 15] and a friend [16]) was not included here. They were caught in Istanbul on the way to Syria and sent home to the U.S., where they were questioned by the FBI. Their desire to go to Syria appears to have been romantically motivated rather than motivated by a desire to fight with the insurgency.

[29] Globe Staff, "Mass. Man Accused of Aiding ISIS Allegedly Killed in Iraq," *Boston Globe*, 3 June 2015.

[30] ABC News Staff, "Official: American May Be Key in ISIL Social Media Blitz," *ABC News*, 3 September 2014; FBI Press Release, "Wanted Fugitive Ahmad Abousamra Added to the FBI's Most Wanted Terrorists List," 18 December 2013; Bronislaus B. Kush and Linda Bock, "Accused Terrorist Taught at Alhuda Academy." *Worcester Telegram* (Worcester, MA), 23 October 2009; United States of America v. Tarek Mehanna and Ahmad Abousamra (United States District Court District of Massachusetts, 2009); United States of America v. Tarek Mehanna, Sentencing Statement (United States District Court District of Massachusetts, 12 April 2012).

[31] Klausen, Morrill, and Libretti, "The Terrorist Age-Crime Curve," 19-32.

[32] Jerrold M. Post, *The Mind of the Terrorist: The Psychology of Terrorism from the IRA to al-Qaeda* (New York: Palgrave Macmillan, 2007). For a comprehensive review of the literature, see: Jeff Victoroff, "The Mind of the Terrorist: A Review and Critique of Psychological Approaches," *Journal of Conflict Resolution* 49, no.1 (2005):3-42.

[33] Abdur Rahmaan Anderson is a manager with the U.K. probationary services, the National Offender Management Service (HMPS). He has worked with the de-radicalization of jihadist violent offenders in London and is a self-described Salafist Muslim.

[34] The median value refers to the midpoint of the frequency distribution where there is an equal probability of falling above (lower 50%) or below the number (upper 50%). Another frequently used metric is the mode, which is the value that occurs most often. Reporting modes is not very useful in the case of small dataset such as this one. An example will show why. If there are 20 arrests in one year, on involving 5 teenagers trying to go to Somalia and three pensioners trying to blow up tankers at JFK airport, the most frequently occurring age values will be below 20 and above 55. Each is in fact atypical for the data as a whole.

[35] Adam Gadahn was another "long timer." He started to express interest in Islamic radicalism as teenager in 1993 and converted to Islam in 1995. He left the United States for Pakistan three years later, and probably joined Al Qaeda at that time. In 2001, Gadahn started Al Qaeda's media division, As-Sahab. Following our coding scheme online activism is classified as "Stage 2" behavior; a behavior that is probably criminal but not violent. (Critics might say that running Al Qaeda's media corporation is different from a teenager sitting in a suburban bedroom posting things on Facebook. They would be

right.) The FBI placed Gadahn on its terrorist wanted list in 2004, 9 years after he started identifying with the extremist belief system. Alternatively, it could be argued that Gadahn radicalized in 3 to 5 years, indicated by when he left in 1998 or by when he last was in touch with his family in California in 2002. Gadahn was killed in a drone strike in January 2015.

[36] Akbar Jihad Jordan, Twitter Profile, 11 May 2012, https://twitter.com/youngmorpheus; Bruce Mildwurf, "Wake Terrorism Investigation Built over Weeks," *WRAL*, 20 March 2014.

[37] Press Release, "Raleigh Man Pleads Guilty to Conspiring to Provide Material Support for Terrorism," Department of Justice: Office of Public Affairs, 29 March 2016.

[38] "Najibullah Zazi Pleads Guilty in New York Terrorism Plot," *CNN*, 23 February 2010; United States of America v. Najibullah Zazi, Indictment (United States District Court Eastern District of New York, 2009); United States of America v. Najibullah Zazi, Memorandum in Support of the Government's Motion for Detention (United States District Court Eastern District of New York, 2009); Michael Wilson, "From Smiling Coffee Vendor to Terror Suspect," *New York Times*, 25 September 2009.

[39] United States of America v. Dzhokhar A. Tsarnaev, Exhibits Day 12 (United States District Court District of Massachusetts, 24 March 2015).

[40] Derrick Kinner and Tamar Lush, "Florida Mosque Leaders Say Teen Talked of Jihad," *Fox News*, 19 July 2013.

[41] United States of America v. Shelton Thomas Bell, Redacted Transcript Sentencing Hearing (United States District Court Middle District of Florida Jacksonville Division, 2014):79.

[42] United States of America v. Shelton Thomas Bell, Indictment (United States District Court Middle District of Florida Jacksonville Division, 2013): 4.

[43] United States of America v. Shelton Thomas Bell, Sentencing Order (United States District Court of Florida Jacksonville Division, 2015): 7.

[44] Geoff Mulvihill, "Mosque Says Tamerlan Tsarnaev Had Two Outbursts In The Last Year," *Associated Press*, 22 April 2013.

[45] Emma-Kate Symons, "ISIL is really a Revolt by Young Muslims against Their Parents' Generation" Interview with Olivier Roy, published 3 December 2015, *Quartz.com*, retrieved 24 June 2016 from http://qz.com/562128/isil-is-a-revolt-by-young-disaffected-muslims-against-their-parents-generation/

[46] Terrence McCoy, "How Douglas McAuthur McCain Became the First American to Die Fighting for the Islamic State," *Washington Post*, 27 August 2014.

[47] Lorne Dawson, *Comprehending Cults: The Sociology of New Religious Movements*, 2nd ed. (Toronto: Oxford University Press, 2006):110. I am grateful to Lorne for alerting me to the ubiquity of the phenomenon in conversion experiences.

[48] Jytte Klausen, "Tweeting the Jihad: Social Media Networks of Western Foreign Fighters in Syria and Iraq," *Studies in Conflict & Terrorism* 38, no.1 (2015): 1-22.

[49] John Mueller and Mark G. Stewart, "Terrorism, Counterterrorism, and the Internet: the American Cases," *Dynamics of Asymmetric Conflict* 8, no.2 (2015): 176-190.

[50] Gabriel Weimann, "Lone Wolves in Cyberspace," *Journal of Terrorism Research* 3, no. 2 (2012).

[51] Ines Von Behr, Anais Reding, Charlie Edwards, and Luke Gribbon. "Radicalisation in the Digital Era: the Use of the Internet in 15 Cases of Terrorism and Extremism," *Brussels: RAND* (2013): xxi.

[52] United States of America v. Emerson Begolly, Indictment (United States District Court for the Eastern District of Virginia Alexandria Division, July 2011); United States of America v. Emerson

Begolly, Sentencing Memorandum (United States District Court for the Western District of Pennsylvania, July 2013).

[53] "Hoda Muthana," *Counter Extremism Project*, retrieved 30 March 2016 from http://www.counterextremism.com/extremists/hoda-muthana; Ellie Hall, 2015, "Gone Girl: An Interview with an American in ISIL," *Buzzfeed*, 17 April 2015.

[54] United States of America v. Shannon Maureen Conley, Criminal Information (United States District Court for the District of Colorado, 2014):3.

[55] Adam Goldman, "FBI Disrupts Plot to Kill Scores at Military Base on Behalf of Islamic State," *Washington Post*, 26 March 2016; United States of America v. Hasan R. Edmonds and Jonas M. Edmonds, Case No. 15CR-149, Criminal Complaint (United States District Court Northern District of Illinoi Eastern Division, 2015): 12.

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[57] Richard Fausset, "Young Mississippi Couple Linked to ISIL, Perplexing All," *New York Times*, 14 August 2015.

[58] Therese Apel, "Timeline: What We Know About Jaelyn Young and Muhammad Dakhlalla," *Clarion-Ledger*, 12 August 2015.

[59] Press Release, "Mississippi Woman Pleads Guilty in Terrorism Investigation," Department of Justice, Office of Public Affairs, 29 March 2016.

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[61] Karl Roberts and John Horgan, "Risk Assessment and the Terrorist," *Perspectives on Terrorism* 2, no.6 (2008).

[62] E-mail communication between the PI and Jason Freeland, Operational Psychologist, with the Counter Terrorism Command, Victoria Police, Australia, between March 4 and April 5, 2016.

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