ARE U.S. BASED 'JIHADI' INSPIRED TERRORISTS TRANSITIONING AWAY FROM PHYSICAL TRAINING CAMPS TO ONLINE TRAINING CAMPS?

Ashleigh Nicole Clayton

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ARE U.S. BASED 'JIHADI' INSPIRED TERRORISTS TRANSITIONING AWAY FROM PHYSICAL TRAINING CAMPS TO ONLINE TRAINING CAMPS?

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
National Security Studies

by
Ashleigh Nicole Clayton
March 2018
ARE U.S. BASED ‘JIHADI’ INSPIRED TERRORISTS TRANSITIONING AWAY FROM PHYSICAL TRAINING CAMPS TO ONLINE TRAINING CAMPS?

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March 2018

Approved by:

Antony Field, PhD. Committee Chair, National Security Studies

Steven Childs, PhD., Committee Member

Thomas Long, PhD., Committee Member
ABSTRACT

This thesis is an examination of the backgrounds of twenty-five individuals who conducted a ‘jihad’ inspired terrorist attack within the United States between the years of 2001 and 2016 to determine if terrorists use physical training camps or online training camps as the main method of training to prepare for their attacks.

The debate about the existence of online training camps is beneficial to the field of terrorism study. However, the question of what constitutes an online training camp must first be answered before it can be determined if terrorists are using online training camps. This thesis proposes a comprehensive definition for the term ‘online training camp;’ in an attempt to provide an analytical basis for the examination of U.S. based terrorist training to further the academic discussion.

Additionally, it is suggested from the empirical examination of U.S.-based terrorist training backgrounds that terrorists appear to be engaging in supplemental self-directed online learning in combination with physical training, rather than a complete abandonment of physical training.
ACKNOWLEDGEMENTS

This thesis would not have been possible without the guidance of my committee advisor Antony Field; it was an honor to be mentored by someone of his esteem.

I would also like to thank my committee members, Steven Childs and Thomas Long for their support and participation.

Finally, I would like to extend my gratitude to Jodi Buckley and Matthew Cranmer for their support during the writing process.
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CHAPTER ONE
INTRODUCTION

Background

The United States, since 2001, has maintained what is referred to as a ‘global war against terrorism,’ in response to the 9/11 attacks on the World Trade Center in New York.¹ Military campaigns that have worked to fight terrorism internationally have commonly targeted the locations where terrorists train. For example, Operation Infinite Reach, which was launched under President Bill Clinton in 1998 by the United States Navy, destroyed several Al Qaeda training camps in Afghanistan.² Strikes against training camps have continued into recent years. In 2015 the US military conducted a raid against Al Qaeda camps in Kandahar, Afghanistan.³ Also, in addition to Al Qaeda, the United States has also undertaken strikes against ISIS. In October of 2017 the US military conducted an airstrike against an ISIS training camp in Yemen.⁴ Attacks against terrorist training camps have disrupted the operation of many camps. As a result some

² Jamie McIntyre and Andrea Koppel, “U.S. missiles pound targets in Afghanistan, Sudan; Clinton: ‘Our target was terror,” CNN, August 21, 1998.
scholars suggest that physical training camps are losing relevance and are becoming an outdated vehicle for terrorist training.\textsuperscript{5}

The internet, which has been a recognized mode of self-directed learning and instructor driven training for everyday civilians, presents a new medium for terrorist organizations to use for training their members. Increased use of the internet by terrorists since the 1990s,\textsuperscript{6} has raised the question of the internet functioning as an online training camp, potentially replacing the need for physical training for terrorists.\textsuperscript{7}

Statement of the Problem

This thesis surveys the backgrounds of terrorist perpetrators within the United States from 2001 to 2016 to determine if terrorists are replacing attendance at physical training camps with the use of online training camps.

Purpose of the Study

The current argument that the internet is serving as an online training camp for U.S. terrorists, replacing the need to attend a physical training camp is of concern to the United States because it suggests that self-starter terrorist cells will be able plan, organize, train and carry out full-scale terrorist attacks using


\textsuperscript{7} Kirby, “The London Bombers as “Self-Starters”
only the information they locate online, opening up the possibility that terrorism might be increase in frequency.\(^8\)

Discussion of Concepts and Theories

Physical training for the purpose of this discussion is defined as the continuous engagement in physical practice for the purposes of kinetic learning to be able to adaptably perform a task within a changing environment. Physical training requires the use of kinetic learning, which is the physical application of learned theory that has been taught through either formal or informal methods.\(^9\) Physical training for terrorists can take place in a physical terrorist training camps which often has a similar structure to military training camps. Military camps consist of several different areas such as psychological conditioning, fitness, and technical skill instruction. A large part of physical training revolves around breaking down the individual and rebuilding them mentally in the ideology of the camp.\(^10\) For example, the army lists the following as the structure of their physical training camp: phase one is a reception week, phase two is the start of field exercises and teamwork, phase three is dedicated to marksmanship, rappelling, and confidence building, phase four focuses on weapons training and night infiltration, the final phase is completion of basic training, graduation and


\(^10\) Joining the Ranks: The Role of Indoctrination in Transforming Civilians to Service Members.
progression to advanced individual training.\textsuperscript{11} Physical training camps in general appear to have a technical hands-on focus provided by qualified instructors and can have an additional focus on changing the psychological mindset of the participant to have lasting effects on the individual after they leave the camp. A physical training camp for the purpose of this discussion is defined as the structured face-to-face delivery of educational materials by an instructor for the purposes of engaging in kinetic learning through the practice of physically attending classes, meetings, demonstrations or practice sessions synchronously with the instructor and other program members that allows for interaction between the instructor and participants and encourages demonstration of the physical training skill currently being acquired by participants for evaluation/critique by the instructor.

The purpose of physically training a skill is to know how to perform that skill in a myriad of circumstances; this idea is encapsulated in the theory of perceptual learning. Perceptual learning theory is, “…experience-induced improvements in the pick-up of information.”\textsuperscript{12} Individuals perceive the world around them and it is through these perceptions that they determine their actions. The human brain attempts to estimate how an object will interact with the environment around it as the object is known to remain consistent within its

environment. Perceptual learning theory applied to motor skills states that new skills are acquired through environmental demand and adapt over time to be executed effortlessly. Essentially, the human brain perceives the world around it and then must practice the learned motor skill repeatedly to perfect the action as the environment changes around the individual. It is through this practice and adaptation that individuals can learn to adapt to different situations and transfer the motor skills they learned into these new situations.

Perceptual learning theory is built upon the foundation of muscle memory which is obtained through practice. The term practice is defined as, “...a highly structured domain-specific activity that improves performance, generates no financial or commendation rewards, is costly due to resource access, and is arduous to perform.” For example, college athletes have reported practicing up to forty hours a week, amounting to the hours for a standard full time job in the United States. Researchers determined that on average, for most subjects such as sports, music or chess, it took approximately 10,000 hours or 10 years of practice to reach what would be considered expert level.

An online training camp for the purpose of this discussion is defined as the structured delivery of digital learning content and instructor interaction through

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13 ibid, 2248.
15 Ibid, 415.
16 Ibid, 415
18 Ibid, 415
the practice of distance education or E-learning by an instructor or instructors outside of the a formal learning environment where there would be physical interaction with the instructor to multiple users either at the same time or different times that encourages participants to reach deep processing levels. Online training for the purpose of this discussion is defined as the consumption of digital learning content through the practice of distance education by a single individual or group of individuals outside of a formal learning environment where there would be physical interaction with the instructor. Online training is different from the concept of self-directed learning because there is still a feedback system between the instructor and the student within online training. Self-Direct learning is the concept of directing one’s self in personally prescribed learning exercises that requires the need of self-management and self-monitoring to achieve one’s learning goals.19 The difference between self-directed learning and online training through a medium such as distance education has been differentiated by the United States Department of Education through the office of Federal Student Aid which defines 'distance education as:

   Education that uses certain technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between students and the instructor. The Interaction may be synchronous (student and instructor are in communication at the same time) or asynchronous. The technologies may include the Internet; audio conferencing; or one-way and two-way transmission through open broadcast, closed circuit, cable microwave, broadband lines, fiber optics, satellite, or wireless communications devices. A course taught through video cassettes or discs is also considered a

distance education course but only if one of the three technologies listed is used to support interaction between the students and the instructor.\textsuperscript{20}

Distance education requires the use of Digital Learning Content which is defined by the United States Government as “Learning materials and resources that can be displayed on a digital device and shared electronically with other users. Digital learning content includes both open and or commercial content.”\textsuperscript{21} The purpose of all distance education and online training is to achieve deep processing understanding about a subject. The concepts of surface and deep processing can be understood from the following chart recreated from Offir et. al that summarizes the differences.

Table 1. Surface and Deep Processing Characteristics Reproduced from Offir et. al.\textsuperscript{22}

<table>
<thead>
<tr>
<th>Surface Processing</th>
<th>Deep Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeating the statement of a problem without quotes or interpretation.</td>
<td>Connecting facts, ideas and concepts in order to interpret, propose or judge.</td>
</tr>
<tr>
<td>Repeating what was said without adding new elements.</td>
<td>Proposing new elements of information.</td>
</tr>
<tr>
<td>Using ideas of concepts that were presented, without adding personal comments or advancing the idea.</td>
<td>Creating new information from information that was collected, using hypotheses and quotes.</td>
</tr>
<tr>
<td>Proposing solutions without explanations.</td>
<td>Proposing one or more solutions in terms of judgement.</td>
</tr>
<tr>
<td>Judging without justifying.</td>
<td>Assuming advantages and disadvantages for a situation or</td>
</tr>
</tbody>
</table>

\textsuperscript{20} “Distance Education,” in FSA Handbook 2016-2017, Office of Federal Student Aid (June 2016):2-30.  
A simplistic definition of surface learning is, “the intention to reproduce information in compliance with externally imposed task demands.”\textsuperscript{23} Deep learning can be simplified to, “…an intention to understand…”\textsuperscript{24}

\textsuperscript{23} Noel Entwistle and Susan Waterston, “Approaches to Studying and Levels of Processing in University Students,” \textit{British Journal of Educational Psychology} 58, no. 3 (1988):258-259.

\textsuperscript{24} Ibid.
CHAPTER TWO

LITERATURE REVIEW

Some scholars argue that online training camps are replacing physical training camps for United States-based jihadist inspired terrorists. Kirby proposes that the information found online was once only available through physical training camps, and now that it is online physical camps are not necessary. She offers Al Qaeda’s publication, *Mu’asker al Battar*, as evidence that there are online training camps in current operation, highlighting the idea that the London 7/7 bombers could have used the *al Battar* magazine for their attack and did not need in outside training. Kirby also draws upon the evidence of a dry run performed by the bombers before the attack, and that the type of explosive employed are all features of the *al Battar* instructional publication to illustrate her point.

A study conducted by Gabriel Weinmann during the late 1990s consisted of monitoring terrorist information online. Weinmann focused on the internet being used as an online training camp, and suggests that an online training camp constitutes, “…using the computer-mediated channels to train, teach, direct and co-ordinate terrorists.” This proposes that online training camps encompass oversight in the planning of and preparation for attacks. He also states later on that, “For al Qaeda, the Internet serves as a virtual training camp…The Internet

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25 Kirby, “The London Bombers as “Self-Starters”
26 Ibid, 425
has become a valuable tool for the terrorist organization, not just to coordinate operations and launch attacks, but also as a virtual training camps, a tool of indoctrination and recruitment.”

The argument against the internet as an online training camp focuses on the internet as an information repository or ‘digital library.’ Stenerson states online training camps need to include vetted quality material from known terrorist organizations, specifically with the intent to train members. There should also be an aspect of interaction with a qualified instructor, not just an unidentified online sympathizer. Currently, Stenerson feels that these qualifications are not being met by terrorist organizations and, therefore, no online training camp currently exists.

Petter Nesser also stated that it is, “…misleading, or at least premature, to refer to the Internet as a ‘virtual training camp,’” and that while there were terrorist cells that downloaded instructional materials while planning attacks, he found no instances where cells could be considered ‘virtual only.’ Finally, Ramsey believes that even though terrorists are using the Internet, which does not mean they are gaining the upper hand from their use.

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28 Ibid, 14
30 Ibid
31 Ibid
to be wary of the internet because they recognize that outside groups are monitoring them for evidence of terrorist activities.\(^{34}\)

The current debate on the use of online training camps for U.S.-based jihadi inspired terrorists finds itself mired in several intellectual bogs. First, there is a large debate about the existence of online training camps and little about what constitutes an online training camp. Wiennman makes note of an internet bomb making course established by Hamas’ military wing on their website.\(^{35}\) The course is stated to be interactive in nature, allowing for participants to communicate directly with the instructor. However, Weinnman does not define this an online training camp, but rather an internet course. Nevertheless, his following paragraph states that al Qaeda uses the internet as an online training camp, citing *Al Battar* as al Qaeda’s online training camp.\(^{36}\) Weinmann fails to point out that the publication initially featured a small interactive component where readers were able to communicate with qualified instructors through email.\(^{37}\) This does increase the legitimacy of the publication as an example of a training camp, but it is not an ongoing publication transitioning it into a static document, leaving room to question whether an online training camp must be restricted to interactive content, or if it can encompass the reading of documents from a database of training documents?

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\(^{34}\) Ibid,91  
\(^{36}\) Ibid  
\(^{37}\) Stenerson, “The Internet: A Virtual Training Camp?” *Terrorism and Political Violence*,226
Kirby also draws attention to “sophisticated virtual training camps”\(^{38}\) as an alternative to attending a traditional training camp, fails to offer a definition: “The exchange of this type of instruction [bomb making and attack tradecraft] through monthly magazines, chat forums, and sophisticated virtual camps has given rise to the ‘do-it-yourself’ age of jihadist terror much the way the Internet has facilitated online education, business, and countless other hobbies and pursuits.”\(^{39}\) Kirby lists ways to learn, including online training camps, but does not define online training camps.

Stenerson throughout her article provides properties which she attributes to an online training camp: verified and qualified instructors, production of quality materials specifically distributed by an official terrorist organization for the purposes of training members, and an interactive component.\(^{40}\) However, Stenerson never build a comprehensive definition.

Stenerson then concluded that, “In order to talk about the Internet as a “virtual training camp,” we have to establish whether al Qaeda is, in fact, making an organized effort to train their followers online. A review of the jihadi training manuals and interactive forums that exist on the Internet today shows that this is not the case.”\(^{41}\) She also suggests the Al Battar publication as the best example of an attempt by al Qaeda to train its members online, given that it once had an


\(^{39}\) Ibid

\(^{40}\) Stenerson, “The Internet: A Virtual Training Camp?” Terrorism and Political Violence, 230

\(^{41}\) Ibid
interactive component. The weakness in Stenerson’s theory lies in the section focused on interactivity,

It seems clear that in order to call the Internet a “virtual training camp,” it has to represent more than just a place for storing and distributing training material. As this study is only concerned with publically available websites, the answer to this question will be only partial. There are a lot of other channels in which training and exchange of information may take place, such as chatrooms, PalTalk and private e-mail, in addition to forums with more restricted membership that requires personal references or other screening processes.\textsuperscript{42}

It appears that Stenerson’s conclusion that al-Qaeda is not making an organized effort to train their members online seems a premature diagnosis, since she notes that she does not have access to all possible hosting platforms. What the debate does highlight is the lack of a comprehensive definition for what constitutes an online training camp, and a need to determine how U.S.-based terrorists are actually training.

\textsuperscript{42} Ibid, 228
CHAPTER THREE

METHODOLOGY

This thesis examines the background of twenty-four perpetrators who conducted ‘jihadi’ inspired terrorist attacks within the United States between the years of post-9/11 2001 and 2016. The study is restricted to the United States to determine if there is a reliable pattern of indicators that can be established, which could be applied to further research in other countries. The date range of post-9/11 2001-2016 was selected because cases newer than 2016 are unreliable in indicators as they are often still being investigated and not all material about the perpetrators has been released. Additionally, as a large component of this study involves the internet and social media, this study does not look at cases older than pre-9/11 2001. Social media platforms such as Facebook and Twitter were not invented until the mid-2000s.\(^ {43,44} \) Also, computers were only present in 8.2% of all American households in 1984.\(^ {45} \) In 1997, only 18% of American households had internet access.\(^ {46} \) It was not until the year 2001 that 56.3% of households owned a computer and 50.4% of households had internet access.\(^ {47} \) Furthermore,

\(^ {47} \) Ibid
the sample excludes cases where the perpetrators that the START database attributed to Jihadi inspired terrorism but actually was not.

All cases were compiled from the National Consortium for the Study of Terrorism and Response to Terrorism (START) global terrorism database. Using the advanced search options, a database search was performed using the following parameters: United States, post 9/11 2001-2016. From the search list cases were recorded that listed the perpetrator group as either Jihad-inspired extremists, Muslim extremists or a known terrorist organization such as ISIS or al-Qaeda. This search yielded a total of thirty unique perpetrators. After compiling a list of perpetrators, open source media was searched through the LexisNexis Academic database for information on each of the perpetrators. The following six perpetrators were excluded from the analysis: Preston Lit, Justin Najan Sullivan, and Rasheed Abdul Aziz.

Richard Reid, the would-be shoe bomber who attempted to detonate a bomb on American Airlines Flight 63 from Charles-de-Gaul airport to Miami, is listed in the START database as an attack in France. It has been included in this case selection because the flight falls under Special Aircraft Jurisdiction of the United States pursuant to 18 U.S.C. 32(a) for the offense of attempted destruction of the aircraft. The Special Aircraft Jurisdiction of the United States is relevant to all United States registered flights and those international flights that
have a destination within the United States and are considered “in flight” on which a crime is being committed.

Preston Lit admitted to planting fake bombs around the city of Philadelphia, however, he was determined to be mentally unstable and was off of his prescribed medications when the incidents occurred. Lit had a previous history of delusional behavior. Lit attached messages about ‘freeing Palestine’ to his fake incendiary devices which cause authorities to first approach the case as possible terrorism. He was not charged with terrorism but rather arson and the threat to use a weapon of mass destruction. It does not appear the Lit’s actions were one of a jihad inspired terrorist, so he has been excluded from the research.

Justin Najan Sullivan shot and killed John Bailey Clark Jr. in a robbery. He wanted the money to carry out an ISIS inspired attack; this does not constitute

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48 “An aircraft is ‘in flight’ from the moment when all external doors are closed and following embarkation until the moment when one such door is opened for disembarkation, or in the case of a forced landing, until competent authorities take responsibility for the aircraft.” 49 U.S.C. § 45501(1)
53 Jessica Finn, “North Carolina ISIS supporter gets SECOND life sentence after pleading guilty to killing his neighbor, 74, and stealing his money to fund a terror plot on US soil that could have killed up to 1,000 people,” MailOnline, July 17, 2017.
a terrorist attack attempt. The purpose of the murder was funding to commit acts of terror, but the murder itself was not a jihadi-inspired terrorist attack.

Rasheed Abdul Aziz went to the Corinth Missionary Baptist Church with the intent to kill the patrons of the church, but he was talked down by the pastor John Johnson.\(^{54}\) Aziz left the church without attacking anyone, and was subsequently arrested for illegal possession of a weapon as he had a prior record that prevented him from owning a weapon.\(^{55}\) He was not arrested on charges of terrorism as he did not follow through with the attack, excluding this incident as a jihadi-inspired terrorist attack or attempt.

The rest of the cases were analyzed for evidence of online training or physical ‘face-to-face’ training.

Table 2. Summarization of Perpetrators

<table>
<thead>
<tr>
<th>Date</th>
<th>Perpetrator</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/26/2016</td>
<td>Abdul Razak Ali Artan</td>
<td>Attack on the Ohio State campus in Columbus, Ohio by driving a car into a crowd; after which Artan proceeded to exit the vehicle and attempt to stab bystanders with a knife.(^{56})</td>
</tr>
<tr>
<td>9/1/2016</td>
<td>Ahmad Khan Rahami</td>
<td>Series of bombings that occurred between the dates of September 17(^{\text{th}}) and 19(^{\text{th}}), 2016</td>
</tr>
</tbody>
</table>


\(^{55}\) “UPDATED: Suspect in church threat says instructed by God to ‘slay infidels’,” *Jacksonville Daily Progress* (Texas), September 14, 2015.

\(^{56}\) Alex Wellman, “FBI reveal Ohio State University attacker “may have been inspired by ISIS” to commit car and machete rampage; Abdul Razak Ali Artan slammed his car into a group of people before leaping out and hacking at innocent passer-by with a butcher’s knife,” *Trinity Mirror*, November 30, 2016.
<table>
<thead>
<tr>
<th>Date</th>
<th>Name(s)</th>
<th>Events and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/12/2016</td>
<td>Omar Mateen</td>
<td>An attack on the Pulse Nightclub in Orlando, Florida and opened fire on the crowd.</td>
</tr>
<tr>
<td>1/7/2016</td>
<td>Edward Archer</td>
<td>Archer fired thirteen shots at a police officer after flagging down the patrol car, hitting the officer three times.</td>
</tr>
<tr>
<td>12/2/2015</td>
<td>Tashfeen Malik, Syed Rizwan Farook</td>
<td>Attack on the Inland Regional Center social services agency in San Bernardino, California and opened fire on his own co-workers at an office Christmas Party.</td>
</tr>
<tr>
<td>11/4/2015</td>
<td>Faisal Mohammad</td>
<td>An attack on a group on students on the University of California-Merced campus, stabbing four individuals before being interrupted by a construction worker and fleeing the scene.</td>
</tr>
<tr>
<td>7/16/2015</td>
<td>Mohammad Youssuf Abdulazeez</td>
<td>Attack on two separate military recruitment centers in Chattanooga, Tennessee. Abdulazeez first fired at the Lee Highway recruiting center and then with the police chasing him he drove to the Amnicola Highway recruitment center crashing through the security gate in front of the facility and then proceeded to fire into the buildings.</td>
</tr>
</tbody>
</table>

59 Amanda Holpuch and Alan Yuhas, “Mohammad Youssuf Abdulazeez; everything we know about the Chattanooga gunman; The Gunman, 24, who died in an attack on a military recruitment center after allegedly killing four US marines, is believed to have been born in Kuwait,” *Guardian*, (New York), July 17, 2015.
<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/27/2014</td>
<td>Ali Muhammad Brown</td>
<td>During a ‘draw prophet Muhammad contest’. Simpson and Soofi opened fire outside the Center at the end of the contest, initially targeting a police car that was in front of the center before being killed.</td>
</tr>
<tr>
<td>06/25/2014</td>
<td>Ali Muhammad Brown</td>
<td></td>
</tr>
<tr>
<td>10/23/2014</td>
<td>Zale Thompson</td>
<td>Thompson attacked several police officers standing on the street in New York City with a hatchet.</td>
</tr>
<tr>
<td>4/1/2013</td>
<td>Tamerlan Tsavnaev Dzhorkhov Tsavnaev</td>
<td>The Tsavnaev brothers detonated multiple homemade bombs around the finish line of the Boston Marathon.</td>
</tr>
<tr>
<td>11/30/2012</td>
<td>Abdulatif Ali Aldosary</td>
<td>Aldosary detonated a homemade explosive device outside of the Social Security Office in Casa Grande, Arizona. Aldosary is also said to be responsible for the shooting of a man on November 27, 2012.</td>
</tr>
</tbody>
</table>

---

60 Rachel Flint, “Shocked relative of New York terror cop says his cousin’s life was saved by helmet; Kenneth Healey, 25, had only been serving in the force for three months when he was attacked by 32-year-old Zale Thompson,” *Trinity Mirror*, October 29, 2014.

61 Christopher Bucktin, “Boston Marathon bomber sentenced to death penalty for killing three and injuring 264 in blast; Dzhokhar Tsarnaev, 21, and his brother Tamerlan carried out the atrocity at the race on April 19, 2013,” *Daily Record*, May 16, 2015.

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Event Description</th>
</tr>
</thead>
</table>
| 10/2010    | Yonathan Melaku       | Melaku fired upon several military facilities and the Pentagon.  
| 05/01/2010 | Faisal Shahzad        | Shahzad attempted to detonate a car bomb in Times Square, New York. He lit the bomb but it did not explode; only creating smoke and attracting the attention of passersby who alerted the police. Causing any further attempt to detonate the bomb to be interrupted.  
64 Warren Richey, “Underwear Bomber trial: Will is shed light on American cleric killed in Yemen? The trial of the accused underwear bomber Umar Farouk Abdulmutallab is set to being Tuesday. Will testimony support Obama’s contention that slain cleric Anwar al-Awkai ‘directed’ the failed plot?,” Christian Science Monitor, October 10, 2011. |
| 12/25/2009 | Umar Farouk Abdulmutallab | Abdulmutallab boarded a Northwest Airlines flight from Amsterdam to Detroit, shortly before landing in Detroit Abdulmutallab attempted to detonate an explosive device that was sewn into his underwear.  
65 Ibid. |
| 6/1/2009   | Abdulhakim Muhammad   | Muhammad opened fire on an Army-Navy recruiting center in Little Rock, Arkansas.  
66 Ibid. |
| 3/8/2006   | Mohammed Reza Taher-azar | Taheri-azar rented a Jeep and drove it through a crowd on the University of North Carolina at Chapel Hill campus.  
66 Ibid. |
| 1/5/2002   | Charles Bishop        | Bishop stole a plane from a local airfield where he was taking flying lessons and crashed it into a Bank of America building in Tampa,  
66 Ibid. |
<table>
<thead>
<tr>
<th>Date</th>
<th>Perpetrator</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/31/2003</td>
<td>Eid Elwirelwir</td>
<td>Elwirelwir crashed his car through the security gate at March Airforce Base in Riverside, California.</td>
</tr>
<tr>
<td>12/22/2001</td>
<td>Richard Reid</td>
<td>Reid boarded an American Airlines flight in Paris that was destined for Miami. His shoes contained an explosive device, while attempting to detonate the device he was apprehended by fellow passengers.</td>
</tr>
</tbody>
</table>

Each case was then examined using the following list of indicators to determine the main source of training for each perpetrator. A strong indicator of online training is private internet communication with known terrorists. Weak indicators of online training include download of manuals, watching videos of attacks, and visiting extremist websites. Strong indicators of physical ‘face-to-face’ training are proof of training in an established terrorist training camp and military enlistment. A weak indicator of physical ‘face-to-face’ training is known organized group practice (firearms or other). A very weak indicator is overseas travel to locations with known operational terrorist training camps. This last indicator is included because overseas travel to areas with known terrorist training camps often brings in the speculation by officials that it is possible for the suspect to have traveled to the camp to receive training but that there is no physical proof of them actually attending the camp.

Private internet communication with known terrorists is a strong indicator though it is not always disclosed what the private conversations were about.
However, it is one of the most direct ways to receive terrorist training instruction over the internet. Weak indicators for online training are still useful, because they show the attempt to gain training online. The downloading of training manuals is considered a weak indicator of online training because as specially-designed learning materials, they provide detailed instruction for users. However, not every individual will be able to understand the directions though they are often geared towards those without formal training. For example, the al-Qaeda magazine *Inspire* is known for including explosives recipes that focus on building bombs from household items,\(^{67}\) making it possible for those without true explosive training to attempt to create explosive devices. Watching attacks online may help individuals carry out an attack by demonstrating what the perpetrator should do or not do to carry out a successful attack. Visiting extremist websites can provide individuals with access to other training materials that were not reported in the open source media.

Proof of training in an established terrorist training camp is the strongest indicator of physical ‘face-to-face’ training. Proof is either a photograph or video of the suspect inside a known terrorist camp, a statement by the suspect that they attended a training camp. The other strong indicator for physical training is military enlistment. Military enlistment is considered a physical training indicator because all new service members are subjected to basic training that provides

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them with some rudimentary physical and firearms training. The military enlistment indicator category also includes individuals who fought with unofficial military forces in other countries. Organized group practice is considered a weak indicator because, although a necessary step to weapons mastery, the lack of an instructor makes it self-directed learning. Practice for the context of this thesis mostly involves organized visits to firing ranges with friends or relatives. The last weak indicator for physical training is overseas travel. Many details of these trips are not fully released to the media, leading to speculation about whether the individual attended a terrorist training camp, or came into contact with other individuals that trained them face-to-face in some manner but there is no actual concrete proof that the traveler attended a physical training camp.

68 Military service also includes occasions of practice and further development, as continuing maintenance of skills is typically required.
CHAPTER FOUR

ANALYSIS

The following is an analysis of the indicators for physical or online training expressed by each individual perpetrator as divulged by open source media.  

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Adbul Razak Ali Artan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Training</td>
<td>Abdul Razak Ali asylum with his family in Pakistan after fleeing Somalia due to “Militia and Al-Shabbah” persecution.  It is noted in Artan’s case that this indicator is particularly weak because he did not travel outside the U.S. after arrival, but spent possibly seven years in Pakistan during his teenage years.</td>
</tr>
<tr>
<td>Indicators</td>
<td>N/A</td>
</tr>
<tr>
<td>Online Training</td>
<td>N/A</td>
</tr>
<tr>
<td>Indicators</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Ahmad Khan Rahami</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Training</td>
<td>Rahami exhibited the indicators for overseas travel and training in an established training camp. Investigators have stated they believe the explosive devices he constructed indicate Rahami had training beyond reading online manuals. Rahami traveled to Afghanistan and Pakistan during the years of 2011 and 2014.</td>
</tr>
</tbody>
</table>

70 A complete spreadsheet of the perpetrators and indicators can be found in the Appendix section.
71 Matt Zapotosky, “Ohio State attacker, a refugee, should have been more thoroughly vetted, Senate Judiciary chair alleges; U.S. Sen. Charles E. Grassley says his office obtained records that show U.S. officials should have done more questioning of Abdul Razak Ali Artan, a Somali refugee,” Washington Post, December 15, 2016.
<table>
<thead>
<tr>
<th>Online Training Indicators</th>
<th>His father reported to the FBI that Rahami watched explosions online and visited websites belonging to al Qaeda and the Taliban.75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perpetrator</td>
<td>Omar Mateen</td>
</tr>
<tr>
<td>Physical Training Indicators</td>
<td>Mateen exhibited the indicator for overseas travel. He traveled to Saudi Arabia in 2011 and 2012.76</td>
</tr>
<tr>
<td>Online Training Indicators</td>
<td>Mateen exhibited the indicators for watching attacks online and visiting extremist sites. His wife has stated that he watched jihadist videos and it was disclosed by the FBI that Mateen’s computer was used to visit extremist websites.7778</td>
</tr>
<tr>
<td>Perpetrator</td>
<td>Edward Archer</td>
</tr>
<tr>
<td>Physical Training Indicators</td>
<td>Archer, exhibited the indicator of overseas travel. Archer traveled to Saudi Arabia and Egypt during the years 2011 and 2012.79</td>
</tr>
<tr>
<td>Online Training Indicators</td>
<td>N/A</td>
</tr>
<tr>
<td>Perpetrator</td>
<td>Syed Rizwan Farook</td>
</tr>
<tr>
<td>Physical Training Indicators</td>
<td>Farook exhibited the physical indicators of overseas travel and group practice. He traveled to Saudi Arabia and Pakistan multiple times between the years 2011 and 2014.80 Farook was also known for visiting firing ranges as a hobby, alone and with his wife.81</td>
</tr>
<tr>
<td>Online Training Indicators</td>
<td>Farook exhibited the indicators for manual download, visiting extremist websites and private messages with known terror organizations. He downloaded Al Qaeda Inspire, to follow the bomb making instructions.82 Farook</td>
</tr>
</tbody>
</table>

77 Del Quentin Wilber, “The FBI investigated the Orlando mass shooter for 10 months – and found nothing. Here’s why,” Los Angeles Times, July 14, 2016.
80 “Syed Rizwan Farook,” San Bernardino Sun, (San Bernardino, California), December 6, 2015.
82 Alan Yuhas and Amanda Holpuch, “San Bernardino shooters’ friend charged with ‘conspiring to commit terrorism’; Enrique Marquez, a friend of Syed Farook and Tashfeen Malik, has also been charged with violating firearms laws over four guns used during 2 December attack,” Guardian, December 18, 2015.
is known to have communicated online with Nusra Front and al-Shabab members on social media. He also spent time visiting extremist websites.

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Tashfeen Malik</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Training Indicators</td>
<td>Malik exhibited the indicators as well for group practice. Since she lived overseas for most of her life, her time spent there is not analyzed as part of this study. Malik is known to have attended practice at gun ranges with her husband.</td>
</tr>
<tr>
<td>Online Training Indicators</td>
<td>Malik exhibited the indicators for visiting extremist sites. She viewed extremist material online along with her husband.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Faisal Mohammad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Training Indicators</td>
<td>N/A</td>
</tr>
<tr>
<td>Online Training Indicators</td>
<td>Mohammad exhibited the indicator for visiting extremist sites. The FBI released that Mohammad’s computer browser history was full of visits to extremist sites.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Mohammad Youssuf Abdulazeez</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Training Indicators</td>
<td>Abdulazeez exhibited the indicators for overseas travel and group practice. He visited Jordan in 2014. He also practiced shooting regularly since his childhood, starting with BB guns and Paintball guns before moving on to assault rifles after returning from Jordan.</td>
</tr>
<tr>
<td>Online Training Indicators</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Elton Simpson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Training Indicators</td>
<td>Simpson both has indicators for group practice as he were shown by a friend, Abdul Kareem, how to fire the</td>
</tr>
</tbody>
</table>

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84 Yuhas, “San Bernardino Shooters’ friend charged”

85 James Rufus Koren and Kim Puzzanghera, “Online loan to shooter opens debate; Funds borrowed by Syed Rizwan Farook raise questions about need for regulation,” *Los Angeles Times*, (California), December 12, 2015.

86 Chis Pleasance, “Father of San Bernardino shooter Tashfeen Malik condemns his daughter’s attack and says he is ‘in such pain I cannot describe it’,” *Daily Mail*, December 10, 2015.

87 Sam Levin, “Attack on California university campus was Isis-inspired, FBI says; Faisal Mohammad was carrying a photocopy of an Isis flag when he was shot and killed by police after stabbing a fellow student at UC Merced,” *Guardian*, (San Francisco, California), June 3, 2016.

88 Reuters, “Chattanooga shooter sent text message declaring war; Mohammad Youssuf Abdulazeez texted his close friend a link to a long Islamic verse,” *Telegraph*, July 18, 2015.
<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Online Training Indicators</th>
<th>Physical Training Indicators</th>
<th>Online Training Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elton Simpson</td>
<td><strong>Weapons</strong> that were to be used in the attack and practiced firing with them.<strong>89</strong></td>
<td>Simpson exhibited the indicators for watching attacks online and private messages with known terror organizations. He was using the encrypted application Surespot to talk to Mohammed Miski, an ISIS recruiter, who messaged Simpson to carry out the attack.<strong>90</strong> He also watched online jihadist videos.<strong>91</strong></td>
<td>Simpson exhibited the indicators for watching attacks online. Simpson along with Miski watched online jihadist videos.<strong>92</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nadir Soofi</td>
<td></td>
<td>Soofi exhibited the indicators for group practice, he was shown how to fire the weapons used in the attack by a friend, Abdul Kareem, and together with Elton Simpson the group practiced shooting together.</td>
<td>Soofi exhibited the indicator for watching attacks online. Soofi along with Simpson watched online jihadist videos.<strong>92</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ali Muhammad Brown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zale Thompson</td>
<td></td>
<td>Thompson exhibited the indicator of military service. He enlisted in the U.S. Navy in 2001, was deployed in March 2003, and discharged in August 2003 for misconduct.<strong>93</strong></td>
<td>Thompson exhibited the indicators for watching attacks online and visiting extremist sites. He is known to have viewed information about beheadings and terrorist organizations.<strong>94</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tamerlan Tsvnaev</td>
<td></td>
<td>Tamerlan exhibited the indicators for overseas travel and</td>
<td></td>
</tr>
</tbody>
</table>

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**91** Billeaud, "Man convicted of helping plot Texas attack files appeal."

**92** Ibid.

**93** Peter Foster, “New York axe attacker: Navy veteran who converted to Islam; Zale Thompson injured two NYC police officers in a ‘lone wolf’ attack after praising jihad and writing with a ‘hyper-racial’ focus online,” *Telegraph*, October 24, 2014.

| Indicators                              | Tamerlan also is on video visiting a gun range with his brother.  
|                                       | He traveled to Dagestan, a republic within Russia, in 2011 and 2012.  
|                                       | Tamerlan also is on video visiting a gun range with his brother.  
|                                       | The Al Qaeda Inspire magazine was found on his hard drive, his YouTube account contained multiple militant videos, other jihadist materials were on his laptop from various extremist sites and has been linked at least online to William Plotnikov, a Canadian Boxer who was in Daegstan fighting with known terrorist forces.  
|                                       | Online Training Indicators  
|                                       | Tamerlan exhibited the indicators for manual download, watching attacks online, visiting extremist sites and private messages with known Jihadists.  
|                                       | Tamerlan exhibited the indicators for manual download, watching attacks online, visiting extremist sites and private messages with known Jihadists.  
|                                       | Online Training Indicators  
|                                       | Tamerlan exhibited the indicators for manual download, watching attacks online, visiting extremist sites and private messages with known Jihadists.  
|                                       | Tamerlan exhibited the indicators for manual download, watching attacks online, visiting extremist sites and private messages with known Jihadists.  
| Perpetrator                            | Dzhokhar Tsavnaev  
| Physical Training Indicators           | Dzhokhar exhibited the indicator for group practice.  
|                                       | Dzhokhar exhibited the indicator for group practice.  
| Online Training Indicators             | Dzhokhar has indicators for manual download, watching attacks online, and visiting extremist sites. The material found on Tamerlan’s computer was also found on Dzhokhar’s as Tamerlan shared all the material with his brother.  
|                                       | Dzhokhar has indicators for manual download, watching attacks online, and visiting extremist sites. The material found on Tamerlan’s computer was also found on Dzhokhar’s as Tamerlan shared all the material with his brother.  
| Perpetrator                            | Abdulatif Ali Aldosary  
| Physical Training Indicators           | Aldosary exhibited the indicators for military service. He fought with anti-government forces in Iraq during the 1991 attempt to overthrow Saddam Hussein.  
|                                       | Aldosary exhibited the indicators for military service. He fought with anti-government forces in Iraq during the 1991 attempt to overthrow Saddam Hussein.  
| Online Training Indicators             | Aldosary exhibited the indicator for manual download. Bomb making instructions were found in his residence.  
|                                       | Aldosary exhibited the indicator for manual download. Bomb making instructions were found in his residence.  
| Perpetrator                            | Yonathan Melaku  
| Physical Training Indicators           | Melaku exhibited the indicator for military service. He served in the Marine Corps and was a Marine Corps Reservist at the time of the attack.  
|                                       | Melaku exhibited the indicator for military service. He served in the Marine Corps and was a Marine Corps Reservist at the time of the attack.  

95 Susan Candiotti and Ross Levitt, “Boston bombings suspect Tamerlan Tsarnaev sought out a different name,” CNN, April 10, 2014.  
98 Candiotti, “Boston bombing suspect Tamerland Tsarnaev sought out a different name.”  
99 Bleier, “Video shows Dzhokhar and Tamerlan Tsarnaev visiting gun range shortly before Boston Marathon Bombing”  
100 Associated Press, “Iraqi Man pleads not guilty in Casa Grande bombing.”  
<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Physical Training Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faisal Shahzad</td>
<td>Shahzad exhibited the indicators for proof of training and overseas travel. His last listed visit to Pakistan was in 2010. Shahzad has stated that he trained in a Taliban training camp in 2009 during his time in Pakistan.</td>
</tr>
<tr>
<td>Umar Farouk Abdulmutallab</td>
<td>Abdulmutallab exhibited the indicators for proof of training. Al Qaeda released a video of Abdulmutallab training with Anwar al-Awlaki in 2009 at one of the training camps.</td>
</tr>
<tr>
<td>Nidal Malik Hasan</td>
<td>Hasan exhibited the indicators for military service. He was a psychiatrist with the Army at the time of the attack and had been serving since 1988. Hasan’s computers also showed that he visited jihadist websites.</td>
</tr>
</tbody>
</table>

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103 Anna Mulrine, “Navy Yard Shooting: What to do about attacks on US military at home?: Monday’s horrific Washington Navy Yard shooting, which killed 12, is the third attack in four years on US military installations at home. Active-duty or former military men were behind all three cases,” Christian Science Monitor, September 16, 2013.


109 Molly Hennessy-Fiske, “Ft Hood families describe agony; Relatives take the stand as jurors weigh sentencing for shooter Nidal Malik Hasan,” Los Angeles Times, August 27, 2013.

110 “‘I am the shooter’ Army psychiatrist Nidal Malik Hasan tells jurors,” Independent, August 6, 2013.
<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Physical Training Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdulhakim Muhammad</td>
<td>Muhammad exhibited the indicator for overseas travel and group practice; he traveled to Yemen in 2007. Muhammad purchased weapons and practiced firing at empty construction sites.</td>
</tr>
<tr>
<td>Mohammed Reza Taheri-azar</td>
<td>N/A</td>
</tr>
<tr>
<td>Charles Bishop</td>
<td>N/A</td>
</tr>
<tr>
<td>Eid Elwirelwir</td>
<td>N/A</td>
</tr>
<tr>
<td>Richard Reid</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Online Training Indicators</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Reid exhibited the indicators for private messages with known terror organizations. French authorities

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113 Ibid.
115 Reid at one point stated that he worked alone and used an internet recipe to make the explosives. This was disproven by the FBI; they discovered forensic evidence on the device that proves Reid had assistance with the device. “Shoe bomb suspect ‘did not act alone’,” *BBC News,* January 25, 2002, http://news.bbc.co.uk/2/hi/americas/1783237.stm.
discovered that Reid was receiving instruction from Al Qaeda in Pakistan through email.  

Physical Indicator Analysis

The following charts summarize the data by indicators and by perpetrator.

The physical indicators are skewed towards the weaker indicators.

Table 4. Occurrences of Physical Indicators

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Proof of Training in Established Training camp</th>
<th>Military Service</th>
<th>Group Practice</th>
<th>Overseas Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdul Razak Ali Artan</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ahmad Khan Rahami</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Omar Mateen</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Edward Archer</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Syed Rizwan Farook</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tashfeen Malik</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Faisal Mohammad</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mohammad Youssuf Abdulazeez</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Elton Simpson</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Nadir Soofi</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Ali Muhammad Brown</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Zale Thompson</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tamerlan Tsavnaev</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Dzhokhar Tsavnaev</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Abdulatif Ali Aldosary</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Yonathan Melaku</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Faisal Shahzad</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Umar Farouk Abdulmutallab</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Nidal Malik Hasan</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Abdulhakim Muhammad</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mohammed Reza Taheri-azar</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Charles Bishop</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

116 Elliot, “The Shoe Bomber’s World.”
Out of the total twenty-four perpetrators there were four who trained in an established terrorist training camp. Eight perpetrators participated in a group training exercise. While only four perpetrators were enlisted with a United States Military branch or fought with an international military unit. Finally, twelve of the twenty-four perpetrators traveled overseas for personal reasons.

**Physical Indicator Discussion**

<table>
<thead>
<tr>
<th></th>
<th>Training Camp Attendance</th>
<th>Group Practice</th>
<th>Military Service</th>
<th>Overseas Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eid Elwirelwir</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Richard Reid</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

Figure 1. Physical Training Indicators by Percent

The weakest indicator, overseas travel, yielded the highest indicator value. However, when this is contrasted with the indicator for proof of training in an established terrorist training camp it shows how weak of an indicator it really is. Only four of the twelve individuals, Ahmad Khan Rahami, Faisal Shahzad, Umar Farouk Abdulmutallab and Richard Reid, who went overseas trained expressed
the indicator for training within an established terrorist training camp, which gives rise to the idea that perhaps while the media loves to speculate about what the perpetrators are doing while they are overseas that it is just that, speculation. This study provided no indication that personal overseas travel to countries with known terrorist training camps indicates that individuals received training in a terrorist training camp. The four who traveled overseas to a known terrorist training camp did not exhibit any other physical training indicators except overseas travel.

The second most frequent indicator was group practice, with eight of the twenty-four perpetrators, Syed Rizwan Farook, Tashfeen Malik, Mohammad Youssuf Abdulazeez, Elton Simpson, Nadir Soofi, Tamerlan Tsavnaev, Dhzokhar Tsavnaev, and Abdulhakim Muhammad, participating in some type of group practice with friends or family. This could mean that when attendance at a terrorist training camp is not possible, individuals will seek out alternative methods of physical training such as informal group practice. The real importance of this indicator rests in the idea that physical training; even in an informal environment is still important to those wishing to perpetrate terrorist attacks. Interestingly, the four who did have formal training in a terrorist training camp did not have the indicator for practice.

Lastly, only four individuals had prior military service training: Zale Thompson, Abduratif Ali Aldosary, Yonathan Melku and Nidal Malik Hasan. Those with military service exhibited some of the same patterns of indicators as
those who trained in a physical training camp. None of them practiced outside what was required for their military service but they did not travel overseas for personal reasons.

Online Indicator Analysis

The following charts summarize the data by indicators and by perpetrator. The online indicators show a large portion of individuals exhibiting online indicators visited extremist websites while only a few actually downloaded manuals from the sites.\(^{117}\)

Table 5. Occurrences of Online Indicators

<table>
<thead>
<tr>
<th>Perpetrator</th>
<th>Private Internet Communication with Known Terrorists</th>
<th>Manual Download</th>
<th>Watching Attacks</th>
<th>Visiting Extremist Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdul Razak Ali Artan</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ahmad Khan Rahami</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Omar Mateen</td>
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<tr>
<td>Mohammad Youssuf Abdulazeez</td>
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</tr>
<tr>
<td>Elton Simpson</td>
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</tbody>
</table>

\(^{117}\) It is recognized by the author that online indicators in particular may be underreported by the media due to law enforcement and other authorities not releasing the entirety of a perpetrator’s online activities for various reasons, including the necessity to maintain in place undercover monitoring of other terrorists or sympathizers that may have come into contact with a perpetrator for prevention of future attacks.
The strongest indicator, private messages with known terrorists was only exhibited by four of the total twenty-four perpetrators. Manuals were downloaded by five perpetrators, while seven watched attacks online. The highest occurring indicator was the weakest, with nine perpetrators visiting extremist sites online.

Online Indicator Discussion

<table>
<thead>
<tr>
<th>Name</th>
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<td>Eid Elwirelwir</td>
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<td>Richard Reid</td>
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<td>Totals</td>
<td>5</td>
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<td>9</td>
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</table>

Figure 2. Online Indicators by Percent
Out of the twenty-four perpetrators, only four of them were known to have communicated with known terrorists through private messages: Syed Rizwan Farook, Elton Simpson, Tamerlan Tsavnaev and Nidal Malik Hasan. It is unknown what Farook discussed with his Al Nusra and al-Shabbab contacts\(^\text{118}\) and Hasan is said to have exchanged emails about religion with Anwar al-Awlaki about\(^\text{119}\) but it is unknown what Tamerlan discussed with William Plotnikov.\(^\text{120}\) Simpson received instruction for the Garland attack through private messages.\(^\text{121}\) Overall, it appears that while it is a viable concept for instruction to be received directly from terrorist organizations but it may not occur as frequently as speculated by the media. However, it is possible that not all connections to known terror organizations have been revealed in open source media.

The second strongest indicator, manual download occurred only five times which was marginally lower than anticipated. With the ease of access to the internet and the abundance of information to be found on the web it was expected that nearly all of the perpetrators would have expressed this indicator however, only Syed Rizwan Farook, Tamerlan Tsavnaev and Dzhokhar Tsavnaev were in possession of the Al Qaeda *Inspire* magazine. The other two individuals, Abdulatif Ali Aldosary and Yonathan Melaku were in possession of unspecified bomb making instructions. However, watching attacks online was the

\(^{118}\) “San Bernardino terrorist housewife”
\(^{119}\) “‘I am the shooter.’”
\(^{120}\) Candiotti, “Boston bombings suspect Tamerlan Tsarnaev sought out a different name.”
second most represented indicator with seven total occurrences. The consumption of violent videos online appears to be a more recent aspiration for those who wish to commit terrorist attacks.

Lastly, nine of the twenty-four perpetrators visited extremist sites. This indicator is unfortunately weak because it is not known what information the perpetrators were accessing but it does show an eagerness to seek out and read information pertaining to personal interests in terrorism.
In total the physical indicators outweigh the online indicators by only 6%.

Though it is recognized that each specific case must be examined to determine what the main source of training is for each individual. One of the main hypotheses in recent years is that the internet is removing the need/desire for physical training in favor of training that may be safer and easier to access online. Looking at the data from the twenty-four perpetrators included in this study should establish some basis for determining the validity of this idea.

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Kirby, "The London Bombers as “Self-Starters".
There is an obvious gap in the timeline for indicators, between the years of post-9/11 2001 and 2008 there were only three cases of jihadist terrorism within the United States: Eid Elwirelwir, Preston Lit and Mohammed Reza Taheri-azar. Preston Lit was excluded and the other two cases did not express any indicators for any category.

Only in two years, 2013 and 2014, did online indicators surpass physical indicators. The case from 2013 is that of the Boston Marathon Bombers, who appear to have for the most part used the *Inspire* magazine which included plans for the detonator types the Tsavnaev brothers used in their pressure cooker bombs. The two cases in 2014 were Zale Thompson and Ali Muhammad Brown. Thompson expressed two online indicators, watching attacks online and visiting
extremist websites. His physical indicator was military enlistment. Brown did not exhibit indicators for either category.

The pattern that appears to be emerging starting in 2015 is the combination of researching materials online and self-directed practice. There were five cases of practice in 2015 alone and all of the cases also had the indicators for watching attacks online or visiting extremist websites. It is possible that online research is being used to supplement physical training rather than replace it entirely. There was a surge of online indicators between the years of 2013 and 2014 that could have represented a shift in the direction of online training replacing physical training; however the trend reversed in 2015. Due to the small N size of the study and the fact that some cases from 2016 are not represented due to the lack of indicators, it is possible repeat of this study in a few years would yield a more complete picture. However, at this time it appears that supplementation rather than replacement is what is occurring in relation to how terrorists are receiving training.

Individual examination of indicators for each perpetrator reveals four categories that a person can fall into for the main source of training: Physically Trained, Online Trained, Self-Directed Online Learning Focus or Hybrid with Practice, and No Training/Undetermined.
Figure 5. Bar Graph of Total Expressed Indicators by Perpetrator
Physically Trained

There are eight perpetrators, Richard Reid, Umar Farouk Abdulmutallab, Faisal Shahzad, Ahmad Khan Rahami, Nidal Malik Hasan, Yonathan Melaku, Abdulatif Ali Aldosary and Zale Thompson, who present with physical training as their main source of training. Reid, Abdulmutallab, Shahzad and Rahami were all training inside an established terrorist training camp. Hasan, Melaku, and Thompson all served with a branch of the United States Military and Aldosary fought with anti-government forces overseas. Both groups exhibited many of the same patterns of indicators, physical training with no or very little online activity. The following charts summarize the pattern of how the indicators occur together.

Table 6. Correlation Chart of Proof of Training in an Established Training Camp to Other Indicators

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</tbody>
</table>

42
Of the four perpetrators who trained in an established terrorist training camp only Rahami spent a great deal of time watching online attacks, going on extremist websites and listening to Jihadist lectures according to his father.\textsuperscript{123} This suggests that the instruction received at the training camps is superior to any information that would be found online, in Rahami’s case it appears that his internet activity is linked more closely to radicalization rather than training.

Table 7. Correlation Chart of Military Service to Other Indicators

<table>
<thead>
<tr>
<th></th>
<th>Manual Download</th>
<th>Watching Attacks</th>
<th>Visiting Extremist Sites</th>
<th>Private Communication with Known Terrorists</th>
<th>Proof of Training in an Established Terrorist Training Camp</th>
<th>Group Practice</th>
<th>Overseas Travel</th>
</tr>
</thead>
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<td>Military Service (4)</td>
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</tbody>
</table>

For those with military service, it was found that they did not practice or go overseas for personal reasons but they did spend slightly more time online. Melaku and Aldosary downloaded manuals, while Hasan visited extremist sites and communicated with known terrorist Anwar al-Awlaki. Thompson visited sites and watched attacks online. This group, while they had enough physical training that they did not feel the need to practice, still sought out more information about conducting attacks. This could be because the physical skills gained through

\textsuperscript{123} Santora, "Keep an eye on him."
military service are not entirely adequate in comparison to the training received in established terrorist training camps for conducting terrorist attacks.

**Online Trained**

Tamerlan and Dzhokhar Tsarnaev represent the only two perpetrators that clearly received most of their instruction from the Internet. Dzhokhar testified that they built the bombs based on the Al Qaeda *Inspire* magazine. It was debated that Tamerlan may have had contact with Chechen rebels during his time in Russia, but a direct link to a terrorist training camp was never established. Additionally, the brothers visited a gun range to practice their shooting, but guns were not the main weapon of choice for their attack. As practice is not commonly associated with explosives creation as there is no good way to practice\(^{124}\) this in the United States without detection, the gun range practice is considered secondary to the download of explosive manuals.

**Self-Directed Online Learning Focus or Hybrid With Practice**

Seven of the perpetrators, Omar Mateen, Nadir Soofi, Elton Simpson, Mohammad Youssuf Abdulazeez, Tashfeen Malik, Syed Rizwan Farook, and Abdulhakim Muhammad, showed signs of looking online for instructions or inspiration and then combining this with practice in an attempt to learn the skills necessary for their attack.

\(^{124}\) It is recognized that it is possible to practice constructing the explosives, but to test if they actually work is difficult to do without detection. Therefore, they would have had no way to test their devices to determine what improvements would need to be made to their technique.
Table 8. Correlation Chart of Group Practice to Other Indicators

<table>
<thead>
<tr>
<th>Manual Download</th>
<th>Watching Attacks</th>
<th>Visiting Extremist Sites</th>
<th>Private Communication with Known Terrorists</th>
<th>Proof of Training in an Established Terrorist Training Camp</th>
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None of the perpetrators in this group visited a terrorist training camp or had military service but they exhibited a wide variety cyber and physical indicators. Both Soofi and Simpson practiced with the firearms they used in the attack, but did not have much online activity, though they were directed by known terrorist over the internet. Abdulazeez used a gun for his attacks and was known to have practiced shooting with various instruments, including BB and Paintball guns, while growing up. It does not appear he ever took any formal shooting classes, and no links to terror camps were established for his trip to Jordan. However, Abdulazeez did not have any online indicators making him almost entirely self-directed practice focused. Malik and Farook both went to firing ranges to practice and while they had explosives for their attack they did not detonate. Farook’s longtime friend admitted the two looked at Inspire and it is not thought that Farook or Malik attended a training camp while traveling abroad. It appears the two participated in practice and self-directed online learning. Finally, Abdulhakim Muhammad purchased weapons and practiced firing with them.
While he traveled overseas there were never links that officially tied him to a training camp and it appears that he participated in self-directed learning.

No Training/Undetermined

There were several cases where there were no strong indicators to support what type of training the perpetrator might have had or they appeared to not have any training at all. The cases of Abdul Razak Ali Artan, Edward Archer, Faisal Mohammad, Ali Muhammad Brown, Mohammed Reza Taheri-azar, Charles Bishop and Eid Elwirelwr all present this dilemma.

Abdul Razak Ali Artan spent a large part of his childhood in Pakistan after fleeing Somalia due to terrorist persecution, it does not appear that he was trained formally by terrorists but it is unknown how close of contact he had with the terror groups. His father was reportedly kidnapped by them leaving the question on if the family had been involved with one of the organizations.  

Edward Archer has not had many details released about his online activity, even though he did spend time overseas his attack consisted of firing a stolen gun at a police car. Out of thirteen shots Archer fired only three of them hit the officer and this was after Archer reached through the window, it does not appear that Archer had much, if any, firearms training.

Faisal Mohammad spent time on extremist sites and while he had a detailed plan about how he was going to carry out his attack, Mohammad was

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125 Zapotosky, “Ohio State attacker.”
thwarted when he had a chair thrown at him. Instead of adapting to the new situation or showing any level of skill in self-defense and hand to hand combat he fled. It is unlikely that Mohammad had any sort of physical or online training.

Ali Muhammad Brown murdered three individuals with a firearm, but there was no statements made about his online habits or if he spent time at firing ranges practicing.

Mohammed Reza Taheri-azar drove an SUV into a crowd but did not kill anyone and then turned himself in. Very little has been released about his background or online habits.

Charles Bishop flew a small plane into a building, leaving a suicide note that expressed support for Osama Bin Laden. Bishop was learning to fly at the airfield where he stole the plane from. Nothing was released about his internet habits or if he had spent any time out of the country.

Lastly, Eid Elwirelwr drove a car through the security gate at March Airforce Base but no connection could be made to official terrorist organizations and his online habits were not divulged in open source media.
Training Trends

Figure 6. Perpetrators by Training Category

The largest group is physically trained with Self-Directed Learning or Hybrid with Practice following closely behind, though it should be noted that out of those physically trained only four of them received training at an established terrorist training camp. This suggests that while it is becoming rarer to train at an actual established terrorist training camp, that some form of physical training remains important to terrorist perpetrators. The No Training/Undetermined category is the same as the Self-Directed Online Learning or Hybrid with Practice category, some of this is unfortunately due to a lack of information on perpetrators. In the future it may be possible to reevaluate the background of selected perpetrators to see if any new information has been released that could determine how they trained.
Implications

Why Physical Training Will Always be Relevant

Benson has previously drawn attention to the fact that information online is not necessarily understandable enough to be made actionable by most individuals.127 What is lacking from the current discussion is an examination as to why physical training remains relevant. Exploration of how the human mind learns and encodes information is necessary to understand this phenomenon. Perceptual learning theory in relation to the acquisition of motor skills, explains why the self-guided learning through use of the internet will never be capable of fully replacing physical training camps.

Perceptual learning theory as applied to motor skill acquisition states that new skills are acquired through environmental demand and adapt over time to be executed effortlessly.128 To successfully execute the skill, “…depends on the ability to adapt and respond to opportunities and threats in the immediate environment.”129 If an individual has only shot a specific firearm in a controlled environment, in a straight line without moving then that is what their brain knows how to do. The individual possesses the shallow knowledge of how to execute a task in one manner to achieve the required result. Their brain knows how to look down the sight of that particular weapon at a specific target. This is a much different situation than would likely be encountered by the individual during an

127 Benson, “Why the Internet is Note Increasing Terrorism,” 299.
129 Ibid, 416
attack. Targets will likely be moving and interacting with the environment around them. For example, Faisal Mohammad who attacked the University of California, Merced college campus, carried a very detailed plan in his pocket of how he was going to execute his attack. He planned to stab students, take hostages and grease the floor with petroleum jelly so that responding police officers would slip and fall, allowing Mohammad to take their guns to continue his attack. Mohammad found his attack cut short after only stabbing four victims because a construction worker interrupted him by throwing a chair at him. Though he stabbed the construction worker, Mohammad fled the scene and failed to carry out the rest of his planned attack. What appeared viable on paper was not possible to execute in a dynamic environment without proper training. Mohammad lacked the in-depth training that would have allowed for him to understand the different situations that he might need to respond to during his attack. Essentially, he had no contingency plan for if the attack did not go exactly how he had planned it on paper, highlighting that physical training is required beyond self-directed E-learning to establish deep learning.

An experiment that supports the theory that some physical training is required to establish deep learning was conducted by Itai Noick and Eilon Vaadi. Participants of the experiment were required to clasp a robotic arm handle while seated at a workstation, while a cursor and target stimuli were projected onto a mirror in front of them. They then had to move a cursor controlled by the robotic arm. Levin, “Attack on California university campus was Isis-inspired.” Giwargis, "UC Merced: Manifesto detailed Faisal Mohammad’s revenge plot."
arm into the target zone without being able to see the robotic arm or their hand. The experiment required participates to learn how to hit a target and then were presented with a secondary target that used a similar hand motion to hit. The study discovered several things; it appears that participants were using an adaptive learning technique to hit the test target after the learned target rather than just learning the hand motion. Additionally, participants often made more initial errors when presented with test targets and not learned targets possibly due to participants attempting to calculate the required hand motion to the test target based on the learned target. Participants were inferring the learned hand motion to adapt to the new situation. Lastly, it took participants roughly 20 trials to learn to hit a new target.

These experiments help to establish a balance between the 10,000 hours required for expert level performance mentioned above, and no practice at all. It appears that physical practice in multiple situations is required to learn a motor skill. As demonstrated in the Novick and Vaadi experiments, learning a motor-skill in a particular manner can interfere with an individual's ability to adapt it to a new situation. The internet, with as much information as it can provide even using a variety of platforms, without instructor input or sufficient guided practice with instructor assessment the material cannot be interactive enough for self-directed learners to master technical skills. Individuals can learn a theory online,

133 Ibid, 5.
but they do not necessarily know how to put it into practice. Training camps and informal small group instruction with a qualified instructor, offers the proper environment to learn a new motor skill and therefore physical training retains its relevance to terrorist training even with hybridization with online material.

**Areas of Future Research**

Since the United States provided such a small N number for the study, it would be interesting to repeat the study on perpetrators within different countries to see if the conclusion remains the same; physical training is still relevant but is being supplemented with online materials when qualified instructors are scarce or travel is difficult. By performing the study on several different countries and then bringing all the data together for analysis it may be possible to determine if there is indeed a new pattern emerging for terrorism without having to wait several years for more data to become available within the United States. Additionally, it is possible to compare the attacks within this study now that the main source of training has been determined for each perpetrator to determine a rate of effectiveness for online vs. physical training, do perpetrators with online or physical training cause more casualties and injuries with their attacks.
Conclusion

At this time, it does not appear that terrorists within the United States are moving away from physical training in favor of online training. Instead, a pattern of self-directed online and physical hybrid training appears to be emerging; physical training is still an important factor to terrorist training, but is now being supplemented with self-directed online learning and group practice instead of attendance at an established terrorist training camp. Perceptual learning theory as applied to motor skill acquisition provides a suggestion as to why physical training remains important to terrorists. Muscle memory is vital to being able to perform a physical skill under a myriad of situations and muscle memory cannot be established from online training or distance education alone. A physical component, such as practice remains necessary.

It was also found that physical training in an established terrorist training camp likely provided superior instruction for those who were able to attend in comparison to those who received physical training from another source such as military enlistment. Those who attended an established terrorist training camp, for the most part, did not go online for additional information or practice suggesting that they were able to absorb enough of the information at the camps to develop some level of muscle memory that made it unnecessary to practice before their attack once they returned to the United States. While those with military enlistment also did not practice, they were slightly more likely to search online for terrorist material online.
This thesis has also demonstrated that the argument of the existence of an online training camp is important, what the argument really does is highlight the need for better definitions of what constitutes an online terrorist training camp and physical training camp within the field of terrorism studies. Through operationalizing the concepts of physical terrorist training camps and online training camp to better analyze the actual type of training terrorist perpetrators are engaging in the argument becomes slightly more focused and relevant. It is the hope of the author that the definitions provided in the methodology section can be used as a springboard to help define some of the abstract concepts involved in the argument.
APPENDIX A

CORRELATION CHARTS OF INDICATORS
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