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Building a Cognitive Readiness Construct for Violent Police-Public Encounters

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BUILDING A COGNITIVE READINESS CONSTRUCT FOR VIOLENT POLICE-

PUBLIC ENCOUNTERS

by

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ABSTRACT

BUILDING A COGNITIVE READINESS CONSTRUCT FOR VIOLENT
POLICE-PUBLIC ENCOUNTERS

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The purpose of this multi-methods study was to explore police use-of-force (UoF) instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience influences those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies deemed essential with current UoF training strategies. The results of the study suggest that UoF instructors generally feel that police officers are not adequately prepared for violent police-public encounters. They cited deficiencies in the range of tactics taught, the frequency with which UoF training is delivered, and obstacles such as: time, resources, repetition, motivation, and liability as overarching themes that prevent adequate training transfer and performance. In addition, confidence and adaptability converged as byproducts of experience to influence UoF instructors' perceptions about their own preparation for violent police-public encounters. They acknowledged the power of emotion in UoF decision-making, but their training, experience, and confidence allows them to focus more on the outward emotional state of an aggressor instead of their own emotions. While they acknowledged the presence of negative stress within themselves during a violent encounter, in general, this stress does not cause paralysis in action. Of the a priori cognitive readiness competencies assessed, the study revealed situational awareness, problem-solving, adaptability, decision-making, confidence, and critical thinking as the highest converging competencies. As such, these

competencies were identified as essential for preparation and response to violent encounters. Lastly, reality-based/scenario-based training was cited as the most effective training strategy to enhance officers' preparation for violent encounters.

DEDICATION

This dissertation is dedicated to all those that took an oath to serve and protect. In the words of Andrew Jacobs, Sr., *"If you do this job properly there is nothing more noble you will do with your life".* As such, we stand in service with courage and nobility holding honor, duty, and professionalism as core values. We understand the risks, yet, we stand in pride as keepers of the thin blue line.   The Law Enforcement Oath of Honor is used to reinforce these ideals and I proudly share it in service to you, the profession, and the community.

On my honor,
I will never betray my badge,
my integrity, my character,
or the public trust.
I will always have the courage
to hold myself and others
accountable for our actions.
I will always uphold the Constitution,
my community
and the agency I serve,
so help me God.
(IACP, 1997 Committee on Police Ethics)

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I want to first and foremost thank the good Lord for giving me this blessing and navigating my heart and soul throughout this journey. The good Lord has also graciously given me one of the most beautiful, intelligent, and loving women in the world. I want to thank my future wife, Amy, for your love and support. Your positive attitude, encouragement, and many acts of kindness have kept me moving forward. Your attention to detail, side-by-side assistance, reflective opinions, and honest feedback challenged me to do my best every step of the way. Most of all, I honor and appreciate your patience and understanding in those times when I struggled to manage all that life has thrown at us during this marathon. I LOVE YOU and this journey would not be complete without you!

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upon your years of experience as both practitioner and instructor. Thank you for your

commitment to service and training.

Lastly, I want to thank specific family, friends, and mentors without whom I would not

have attempted this journey. To my father, no words can describe the influence you have had on

my life. You raised me, you mentored me through your kindness and work ethic, and you inspire

the Preddy name. To Bill Westfall, Brian Crandell, and Pete Sarna, the three of you inspire me

to be a better person in honor of myself, my family, and this noble profession. Collectively, you

steered me to and through this journey and I am forever indebted to your kindness.

This study and the years of hard work that preceded it, represent one of the most

significant and challenging undertakings that I have ever embarked upon. It is with hope that the

transferable body of knowledge gained from this study will not only enhance the understanding

of these dynamic situations, but also advance theory and practice in this area. I hope you find the

information contained within valuable as our community of dedicated professionals continue to

develop new training strategies and tactics that protect our noble men and women while

attending to the bonds of trust between police and the community.

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CHAPTER I

INTRODUCTION

The *violent police-public encounter* is a challenging reality imprinted in the forefront of American consciousness. Such encounters are dynamic, complex, and extremely unpredictable and their very nature places survival and public trust at odds (IACP, 2012). While encounter management is taught in every police academy across the United States, the content and strategies used to prepare officers for these realities are wide ranging and inconsistent prompting many interested in the discussion to call for a "re-engineering" of training, policies, and procedures on police *use-of-force* (UoF) (PERF, 2015). One of the first steps in this re-engineering process should be to define the critical components of UoF performance and identify specific trainable competencies that will likely strengthen the "cognitive readiness" of police officers for such encounters.

A well-defined construct is needed to better understand, define, quantify, and simulate how these critical encounters evolve and impact officer performance so that the law enforcement community can better prepare its officers for the realities of what awaits them when UoF decisions must be made. Construct building in this area is necessary to advance the police profession and empower its standing in law enforcement research. Yet, building a cognitive readiness construct in this context can be challenging because it requires a deep dive into the complex and unclear cognitive and behavioral dimensions that define the phenomena.

For many years researchers have made efforts to explore and gain a greater understanding of the multitude of factors that influence police UoF (Artwohl, 2002; Aveni, 2008; Euwema & Schaufelli, 1999; Manzoni & Eisner, 2006; Lewinski, 2002; Toch, 1996). Much of this research has taken a reductionist approach and little research has been done to understand the cognitive

work associated with rapid assessment and response to such encounters. This study took a different approach by diving into the cognitive domain and uncovering competencies of cognitive readiness deemed essential for preparation and response to violent encounters. In addition, this study examined how UoF instructors perceive their own preparation and response to critical encounters to better understand how and why they leverage certain training strategies to teach essential skills.

Problem Statement

The purpose of this study was to explore UoF instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience and psychological conditioning influence those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies with current UoF training strategies to both conceptualize and operationalize cognitive readiness within the law enforcement training community.

Research Questions

To guide this study, the following research questions were developed:

RQ_1: What are UoF instructors' perceptions of officers' preparation for violent police-public encounters?

RQ_2: How does experience influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ_3: How does psychological conditioning (control of fear, anxiety, anger, etc.) influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ₄: What competencies of cognitive readiness are deemed essential for preparation and

response to violent encounters?

RQ₅: How do the responses to Questions 1-4 influence current UoF training strategies?

Background and Significance

Morrison and Fletcher (2002) cite "readiness" as a product of developing either

emotional control or tactical skills in appropriately applied contexts. While motor skills are

important to readiness, the cognitive contribution to readiness cannot be dismissed. Researchers

understand this and are applying the concept of "cognitive readiness" to specifically describe the

mental preparation needed to perform in complex and unpredictable environments (Morrison &

Fletcher, 2002). When applied to the context of a violent police-public encounter, cognitive

readiness connotes a form of mental readiness for unexpected events that pose a danger to the

safety and wellbeing of oneself or others.

The concept of cognitive readiness is relatively new in law enforcement. Yet, the term's

relevance rivals its interpretation and application in other domains/fields (Fautua & Schatz,

2012; Hoffman et al., 2014; Patton, Loukota, Avery, 2013). With an estimated average 385

million official police-public contacts across the United States annually (Johnson, 2016), police

officers must possess cognitive skills to rapidly sort, discern, and draw conclusions about

potential threats. When ill-prepared officers are faced with *high velocity* events that put their

safety in danger, the stress of the situation can overpower cognitive processing and deliberate

action producing catastrophic results (Rahman, 2007).

In recent years, many of these high velocity encounters have played out in the national

media, which have led to rioting and sentiments of discontent (Chaney & Robertson, 2015).

These events, and the growing discontent that followed, has caused concern among many with

how police apply force during critical encounters. Several law enforcement organizations such as: International Association of Chiefs of Police (IACP); Major Cities Chiefs Association (MCCA); National Organization of Black Law Enforcement Executives (NOBLE); and the Police Executive Research Forum (PERF) have convened to address this concern and developed recommendations for others to consider. Documents such as the Police Executive Research Forum's (2015), "Re-Engineering Training on Police Use of Force" and the President's Task Force on 21st Century Policing's (2015), "Final Report of the President's Task Force on 21st Century Policing" exemplify the efforts made by those concerned about this issue.

This spotlight has gained the attention of academics around the world which has motivated research focused on the interplay between the cognitive, affective, and psychomotor domains while in a state of real and/or perceived crisis within *sociotechnical* fields such as law enforcement (Hoffman et al., 2014). There has also been a strong interest in exploring the influences of training on the outcomes of these domains when they are drawn together at the moment of action (Anderson, J. P., Pitel, M., Weerasinghe, B., Papazoglou, K., 2015; FLETC, 2011). However, focused attention on the perceptions of readiness and the competencies that define cognitive readiness, as precursors to the human performance capabilities of police officers in high-stress and high-stakes environments, has just begun.

Researchers support the notion that various competencies of cognitive readiness, such as critical thinking and decision-making, can be taught (Klein, 2008; O'Neil, Perez, & Baker, 2013), but research also suggests that high levels of training are needed to successfully apply these competencies in unanticipated, rapidly changing, or chaotic high-stress conditions (Hoffman et al., 2014). Concerns about content development and delivery, learning retention, transfer, and decay, as they relate to UoF training, have prompted law enforcement leaders,

academics, and concerned groups to recommend training that simulates real-world violent encounters (IACP, 2012; Murray, 2006). These simulations often require officers to choose from a variety of force options while in stress-induced conditions to better prepare them for the realities of a critical encounter (Andersen, Pitel, Weerasinghe, & Papazoglou, 2015; Murray, 2006; Oudejans, 2008; Oudejans & Pijpers, 2009). While these recommendations demonstrate a deliberate intent to diverge from traditional teaching methods, it is unclear how effective these instructional strategies are in preparing officers for such events (Hoffman et al., 2014; Morrison & Garner, 2011). More importantly, the frequency with which the average police officer participates in practical UoF training is intermittent and the scope of this training is typically very limited raising additional concerns related to scope, sequence, and pedagogy (Reaves, 2016; PERF, 2015). Undoubtedly, various training strategies are being applied with proper intentions to better prepare pre-service and in-service officers, but there appears to be no foundation to firmly ground them in adult learning theory or the conceptual elements from which UoF theory can and should be built.

Because of this, researchers, practitioners, and legal experts recognize the need to identify and develop the constructs of cognitive readiness for application in the law enforcement domain (Faunta & Schatz, 2012; Gallagher, 2014; Grossman, 2009). While high-level constructs such as: knowledge; skills; attitudes; and attributes form the foundation for building cognitive readiness (O'Neil et al., 2014), concrete identification of essential competencies necessary to enhance the UoF performance potential of individual police officers during crisis encounters is needed. Furthermore, perceptions regarding current readiness capabilities need to be examined to inform how prepared officers think they are for violent police-public encounters. The

significance of this study rests in exploring these factors to provide the foundation from which

cognitive readiness construct building can begin.

Theoretical Framework

The theoretical framework for this study is centered on perceptions of cognitive

readiness, essential concepts and skills associated with cognitive readiness for violent police-

public encounters, and cognitive readiness influences in police use-of-force training. Figure 1.1

provides a graphic representation of the theoretical framework supporting this study. A focus on

the study's research questions lead to overarching questions related to scope, sequence, and

pedagogy.
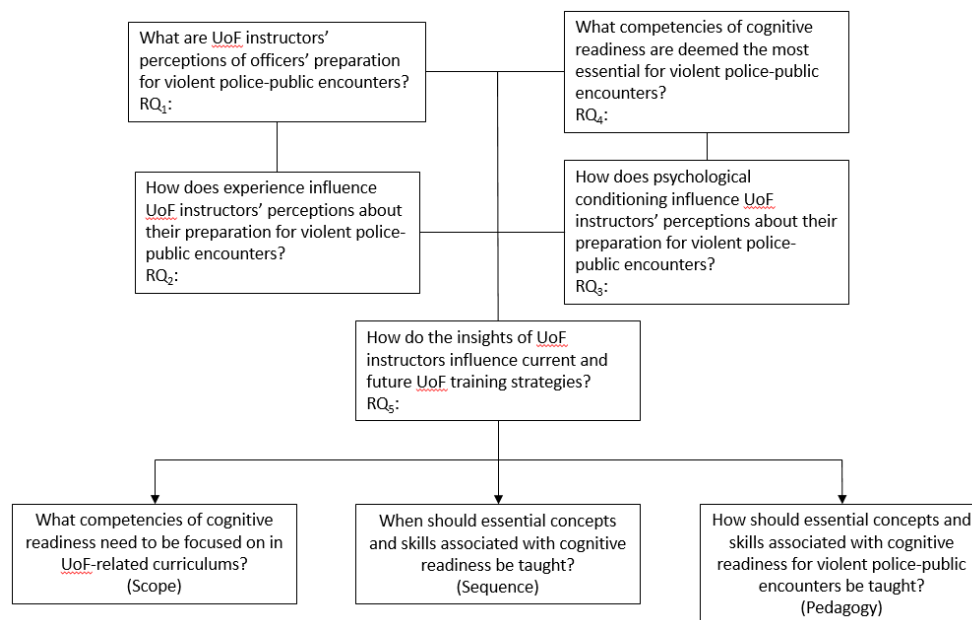
Figure 1.1 Theoretical Framework

Note. The theoretical framework used for this study was adapted from Gold, L. A. (2016). *Teachers' perceptions regarding financial literacy in kindergarten through grade 2* (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses database. (UMI No. 10294629), p. 47.

UoF instructors have acquired knowledge, skills, and experiences that propel them to

higher-levels of understanding about police use-of-force. These instructors have perceptions

about specific knowledge, skills, behaviors, attitudes, and attributes essential to use-of-force

judgment and decision-making, which is defined in terms of cognitive readiness for violent encounters. From this foundation comes the enacted curriculum of what, when, and how specific competencies of cognitive readiness are imparted to police training populations. While there is yet to be evidence of a specific best practice to cognitively prepare police officers for violent encounters, research shows that exposure and practice through actual experience is a key contributor to accelerating expertise in complex environments (Hoffman et al., 2014).

Limitations

This study presented several limitations:

1. The qualitative strand of this study was limited to a small sample size of 15 UoF training experts in the State of North of Carolina that met specific selection criteria.

2. The quantitative strand of this study was limited to Specialized Subject Control and Arrest Techniques instructors and Specialized Firearms instructors in the State of North Carolina.

3. The study targeted trainable competencies of cognitive readiness in the context of a single phenomenon (a violent police-public encounter).

4. The researcher's subjectivity was considered a possible limitation. Having been immersed in this topic for over a decade, the researcher possessed strong feelings, beliefs, and biases that needed to be monitored throughout the study to enhance its credibility. However, honoring the tradition, adhering to the study's design, utilizing a research team, and projecting the participants' voices when appropriate served to enhance the accountability and credibility of the study.

Assumptions

There were several assumptions made in this study. These assumptions had to hold true for the study to address the research questions. Included were:

1. All the interview participants were recognized as subject-matter experts in police use-of-force. As such, each participant possessed knowledge of the relevant and necessary competencies that are essential for the appropriate application of force by police.

2. Core competencies exist in the application of force by police.

3. Mental preparation for critical encounters is necessary and core competencies exist in terms of cognitive readiness.

4. The participants in this study answered all the interview questions openly and honestly.

Research Procedures

This study was conducted using a concurrent transformative mixed-methods research design using triangulation to determine convergence validity (Creswell, 2014; McFee, 1992). This strategy entailed the concurrent collection of both qualitative and quantitative data guided by the researcher's theoretical framework, a separate analysis of both sets of data (Creswell, 2014), and the triangulation of data to determine convergence validity (Creswell, 2014; McFee, 1992). This strategy is depicted in Figure 1.2.

In the qualitative phase, the researcher used a select group of participants that met inclusion criterion as subject-matter experts in police UoF training to conduct group and individual interviews. This select group of participants was purposefully selected from among a

larger group of Specialized Subject Control and Arrest Techniques instructors and Specialized

Firearms instructors. Individual interviews involved the use of cognitive task analysis methods

to determine the hidden cognitive processes involved in responding to a non- deadly violent
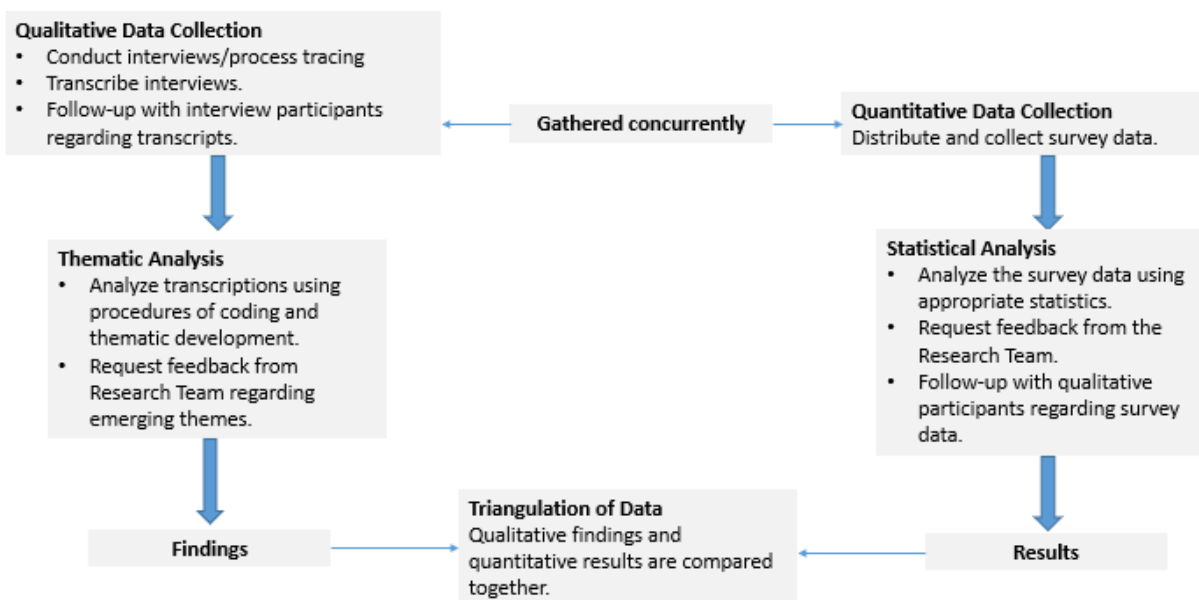
Figure 1.2 Concurrent Transformative Strategy with Triangulation.

Note. Adapted from Olivier, B. H. (2017). The use of mixed-methods research to diagnose the organizational performance of a local government. *SA Journal of Industrial Psychology, 43*(0), p. 6. doi:10.4102/sajip.v43i0.1453

police-public encounter. Each interview participant was asked to describe out loud his/her

observations, thoughts, decisions, and probable actions related to the encounter. Data analysis

for the individual and group interviews included the coding of key words and phrases that

emerged from specific observations or descriptions of human behavior, thoughts, decisions,

actions, perceptions, opinions, attitudes, and beliefs about the topic of inquiry as expressed by

the interviewees (Klein & Militello, 2001; Lodico, Spaulding, & Boegtle, 2010). This approach

relied on reports primarily in the form of words, pictures, and displays rather than formal models

or statistical findings (Grbich, 2013).

The researcher used a survey instrument to collect data from a large group of Specialized Subject Control and Arrest Techniques instructors and Specialized Firearms instructors from across the State of North Carolina as a function of quantitative data collection. Descriptive statistics were used to analyze this data. The interview findings and survey results were then compared together to triangulate and illustrate convergence of the data to expose aspects of cognitive preparation and performance to meet the goal of the study.

Definitions

Key terms are central to understanding essential concepts, therefore, the following definitions represent key operational terms that are used throughout this study.

Cognitive task analysis (CTA). CTA is a set of methods used to identify and explain the mental processes involved in performing a task within its natural environment (Klein & Militello, 2001; O'Hare, Wiggins, Williams, & Wong, 1998)

Cognitive readiness. Cognitive readiness involves the mental preparation needed to perform in complex and unpredictable environments (Morrison & Fletcher, 2002).

Cue indication. Cue indication focuses on the officer's understanding of pre-assaultive variables prior to engaging in the encounter (Johnson & Morgan, 2013).

Decision-making. Decision-making is the selection of one option from a set of two or more options (Klein, Calderwood, & Clinton-Cirocco, 2010).

Mindset. Mindset suggests the ability to effectively cope with stress despite adversity and/or failure (Smith, Wolfe-Clark, & Bryan, 2016).

NCGS 15A-401(d)(1). Use of Force in an Arrest – A law enforcement officer is justified in using force upon another person when and to the extent that he reasonably believes it necessary: to prevent the escape from custody or to effect an arrest of a person who he reasonably believes has committed a criminal offense, unless he knows that the arrest is unauthorized; or to defend himself or a third person from what he reasonably believes to be the use or imminent use of physical force while effecting or attempting to effect an arrest or while preventing or attempting to prevent an escape.

Physiological awareness. Physiological awareness is the heightened awareness of 'fight or flight' physiological effects during moments of high stress. Effects include auditory exclusion, tunnel vision, increased heart rate, respiration, and blood pressure (Artwohl, 2002; Grossman, 2008).

Psychological conditioning.   Psychological conditioning is the recognition, understanding, and proactive control of behaviors and actions related to fear, stress, anxiety, and anger (FLETC, 2011; Grossman, 2008).

Reality-based training. Reality-based training is a dynamic and transformative learning and teaching strategy that accounts for perception, cognition, and action that connects the mind, body, and situational environment (FLETC, 2011; Larsen-Freeman, 2013).

Stress exposure training. Stress exposure training is a training strategy designed to reduce the negative effects of stress when performing in high-demand, high-stress conditions (Driskell, Salas, Johnson, & Wollert, 2008; FLETC, 2011).

Use of force (UoF). Use-of-Force is any effort required by police to compel compliance by an unwilling subject (IACP, 2012).

Use-of-Force (UoF) Instructor. A UoF instructor is any duly sworn officer of the law currently certified through the North Carolina Justice Academy as a Specialized Subject Control and Arrest Techniques instructor or Specialized Firearms instructor.

Use-of-Force (UoF) Training Expert. A UoF training expert is any duly sworn officer of the law currently certified through the North Carolina Justice Academy as a Specialized Subject Control and Arrest Techniques instructor or Specialized Firearms instructor whom meets specific inclusion criteria outlined for this study.

Violent threat. A violent threat is a person, who through their verbal and non-verbal actions, creates the potential for harm to oneself or another.

Summary and Overview

Society has an absolute interest in ensuring that any use of force by police is appropriate and legally justified, but direct action is also vital to officer safety and survival. Police officers in the United States have the legal authority to use force to control, arrest, and/or stop the aggressive acts of others, but these actions must balance officer safety and societal interests (Leyton-Brown & Jones, 2009). The need for understanding the dynamics associated with violent police-public interactions and the application of force by police has never been a more relevant topic for building and maintaining community trust (President's Task Force on 21st Century Policing, 2015). As such, these interactions need to be thoroughly examined and understood to not only inform those interested in the topic, but also drive the necessary changes in training and best practices required to balance officer safety concerns and societal interests. It is, therefore, imperative that the law enforcement community place value on identifying and defining essential competencies of cognitive readiness to better prepare officers for the complexities of policing in the 21st century. The knowledge gained from this study not only

informs the literature about cognitive readiness in the context of policing in the United States, but also aids future curriculum development, simulation design, best practices, and assessment relative to police UoF training.

Chapter I introduced the topic and explained the background and significance of the study. Chapter II provides a review of the literature focusing on aspects of police use-of-force and cognitive readiness. Chapter III presents the methodology and procedures used to collect and analyze the data to address the research questions. Chapter IV reports the findings of the study with various tables and figures embedded to support the findings. Chapter V discusses the information gained in this study and offers conclusions and recommendations based on the findings.

CHAPTER II

LITERATURE REVIEW

This chapter provides the context for the research purpose by examining internal and external factors affecting police use of force, describing the legal limits of authority that justify police use-of-force, and providing an overview of models that guide police use-of-force judgement and decision-making. This chapter also includes an exploration of the definition of cognitive readiness and a description of the competencies that make-up the construct. Lastly, training trends that support police use-of-force decision-making are identified. The review of the literature concludes with a summary transition into the methodology that will guide this study.

Internal and External Factors Affecting Police Use of Force

Discussions and study related to the use of force by police during violent police-public encounters is not a new topic with past inquiries typically focused on factors related to "excessive force" or police use of "deadly force" (IACP, 2012). Early studies examined the presence of a duty issued firearm as a factor in officer aggression during mass confrontations with demonstrators (Dunkin, 1973; Walker, 1968). Other studies that followed explored a wide range of independent variables, both internal and external in nature, as possible influences in determining why and how police use force. External variables are easily observable influences that potentially affect the actions of a police officer. Examples include uniform color (Johnson, 2013) and temperature (Vrij, Van der Steen, & Koopelaar, 1994). Internal factors, however, are less salient and include such factors as psychological conditioning, cognitive processing, and decision-making (Driskell & Salas, 1996; Euwema & Schaufeli, 1999; Gilmartin, 2002; Honig & Lewinski, 2008).

Recognizing, coping, and managing these internal and external factors while acting with a proper response to stop the threat requires significant cognitive efforts by police officers (Kleider, H. M., Parrott, D. J., & King, T. Z., 2009; Leland, 2009). When threats are recognized, officers must navigate through a maze of possibilities and force options before moving to action (Helsen & Starkes, 1999; Terrill, 2003). This can be very difficult to do when the threat involves a violent confrontation and the officer is under intense pressure to act to safeguard his/her welfare and/or the welfare of others. Situations like these not only have the potential to create moments of intense emotional fear, anger, anxiety, or discontent, but can lead to cognitive overload resulting in the rapid deterioration of performance and/or a reflexive action toward natural fight or flight instincts for survival (Dijksterhuis, 2004; Grossman, 2009; Kleider, H. M., Parrott, D. J., & King, T. Z., 2009).

The fight-or-flight response operates from what the literature identifies as the "reptilian brain". The reptilian brain is a primitive part of the brain that deals with autonomic functions associated with movement, coordination, and balance. Just as important, the reptilian brain is associated with the regulation of emotions and survival responses to perceived threatening stimulus (Ohman, Flykt, & Esteves, 2001). Grossman (2009) writes specifically about the reptilian brain in his book entitled, *On Killing: The Psychological Cost of Learning to Kill in War and Society*:

> When a man is frightened, he literally stops thinking with his forebrain (that is, the mind of a human being) and begins to think with the midbrain (that is, with the portion of his brain that is essentially indistinguishable from that of an animal), and in the mind of an animal it is the one who makes the loudest noise or puffs himself up the largest who will win (p. 8).

Another noted author, Malcolm Gladwell (2005), in his book entitled, *Blink: The Power of Thinking Without Thinking*, articulates that our brains use conscious and unconscious strategies to make sense of high demand situations. With respect to unconscious strategies, he writes, "our

brains reach conclusions without immediately telling us that it's reaching a conclusion" (p. 10).

The conscious and unconscious mind clearly contributes to decision-making, but which system

produces "good" decisions in moments of intense crisis is unclear (Dijksterhuis, 2004).

There is an obvious interplay of internal and external factors present throughout the

stages of a police-public encounter and the probabilities of using force vary based on this

interplay (Binder & Scharf, 1980). Since the focus of this research is on cognitive readiness,

however, the remaining sections of this literature review will examine cognitive aspects of use-

of-force decision-making particularly as they relate to the legal principles that justify police use-

of-force, the decision-based models that underpin the application of force, and the competencies

that support cognitive readiness.

Legal Principles on Police Use of Force

Police use-of-force is generally defined as any force used by law enforcement officials to

overcome the physical, verbal, and/or psychological resistance of others during a lawful police-

public interaction (NCJA, 2017). The International Association of Chiefs of Police (2012)

define use-of-force simply as, "any effort required by police to compel compliance by an

unwilling subject" (p. 14). Force is categorized as either deadly or non-deadly depending on the

"likeliness" of serious physical injury or death (p. 14). With respect to deadly force, the United

States Supreme Court in *Tennessee v. Garner* (1985) established the foundation that governs the

use of deadly force in jurisdictions across the United States by prohibiting the use of deadly force

to stop an unarmed non-violent felon in flight, which was once acceptable under Tennessee law

(Tennenbaum, 1994). The *Garner* decision redirected when deadly force could be used and

challenged lawmakers to draft legislation limiting the use of deadly force by police to incidents

in which suspects pose "a significant threat of death or serious physical injury" (Tennenbaum,

1994, p. 244). The effect was the adoption of legislation like North Carolina General Statute

§15A-401(d)(2) which states,

> [A] law enforcement officer is justified in using deadly force upon another person
> when (1) in defense of himself or a third party from what he reasonably believes
> to be the use or imminent use of deadly force; (2) to arrest or prevent the escape
> of a person whom the officer reasonably believes is attempting to escape by the
> use of a deadly weapon; (3) to arrest or prevent the escape of a person who, by his
> conduct or any other means, indicates that he presents an imminent threat of death
> or serious physical injury unless apprehended without delay.

Similarly, state lawmakers had to define the legal parameters for non-deadly force. As

such, states have adopted legislation like North Carolina General Statute §15A-40(d)(1) which

authorizes the use of non-lethal force upon another person,

> [W]hen and to the extent that the officer reasonably believes it necessary: to
> prevent the escape from custody or to affect an arrest of a person who he
> reasonably believes has committed a criminal offense; unless he knows that the
> arrest is unauthorized; or to defend himself or a third party from what he
> reasonably believes to be the use or imminent use of force while effecting or
> attempting to affect an arrest or while preventing or attempting to prevent an
> escape.

Again, statutes such as this became the standard across the land; each grounded by landmark

U.S. Supreme Court decisions.

Justices use an "objective reasonableness" standard when evaluating use-of-force cases.

This standard is based the "totality of the circumstances" as defined in *Illinois v. Gates* (1983).

Graham v. Connor (1989), anchors this standard to "the perspective of a reasonable officer on

the scene" and the "moment in time" in which the force was used with consideration given to

"the fact that police officers are often forced to make split-second judgements in circumstances

that are tense, uncertain, and rapidly evolving" (p. 397). However, lower Courts have recently

taken wider views on the totality of the circumstances test, often taking into account the officer's

actions leading up to the violent encounter. Referred to as "provocation theory", the actions of

officers leading up to applications of force is both a progressive and controversial stance (Ryan, 2017), with proponents defending its consideration as a necessary counterweight to the latitudes provided to law enforcement officials (Jordan, 2012).

The *Tennessee* and *Garner* decisions have defined the parameters for police use of force in the United States. These landmark cases have been instrumental to the development of tools, weapons, and tactics that aid police officers in the proper application of force (Buehrer, 2016). While much could be written about these tools, weapons, and tactics, the intent for this literature review is to expose the reader to cognitive elements related to use-of-force decision-making. Therefore, the next section discusses use-of-force models as training tools to educate and reinforce proper use-of-force judgement and decision-making.

Police Use-of-Force Models

The capacity to use force to safeguard the safety and welfare of others is necessary to the police role and its function within a democratic society (Kuhns & Knutsson, 2010). Yet, any use of force beyond the presence of an officer creates high-risk environments that potentially lead to tragic results when bad decisions are made (Wulfeck & Wetzel-Smith, 2010). The legal provisions that justify the use of force by law enforcement officials only partly represents the totality of factors involved (i.e. cognitive, affective, and psychomotor influences) in the UoF decision and application process (Leyton-Brown & Jones, 2009). To aid understanding of the cognitive focus, various police use-of-force models have been created to guide the necessary critical thinking and decision-making processes involved.

Force considerations span a variety of lethal and less-lethal options from officer presence to lethal applications involving a firearm (Aveni, 2003; Brown, 1994; Remsburg, 1986). Selection from these options while in a state of crisis is a high-level task that Wulfeck and

Wetzel-Smith (2010) associate with complicated judgement, planning, and decision-making, which must be performed at an expert level. Performance in the selection of available force options is further complicated by prevailing emotions, ambiguity of the situation, and speed of the event (Leyton-Brown & Jones, 2009); all which impair the cognitive competencies associated with judgement, planning, and decision-making (FLETC, 2011; Hoffman et al, 2014).

Stenning et al., (2009) point out that not all police organizations deploy the same force options, but police officers in general, face similar circumstances that require force intervention. When making force related decisions, "police officers are expected to use individual judgement in applying force, while at the same time working within appropriate legal and organizational parameters" (Kuhns & Knutsson, 2010, p. 6). These parameters are principally-based in established legal doctrine and the accepted UoF decision-making model of the employing police organization. While legal doctrine defines the legal parameters for police use-of-force, decision models provide a framework for making use-of-force decisions and for assessing and judging those decisions (PERF, 2016, p. 83). Table 2.1 highlights common characteristics and key differences among the nine models presented. Elaborations of each model are then provided based on the researcher's review of the literature.

Table 2.1

UoF Model Common Characteristics and Key Differences

UoF Model	Common Characteristics	Key Differences
OODA Cycle		Paired with control tactic models to emphasize the links from observation through action to gain a tactical advantage over one's opponent.
Linear Use-of-Force Continuum	Depicts a progression of control tactics from officer presence to deadly force.	Control tactics are presented in a linear depiction that is hierarchical in nature leading users along a path of force escalation.
		Typically depicted in the form of stairs or the shape of a pyramid. The model

		emphasizes officer actions along a spectrum of force escalation.
Modified linear Use-of-Force Continuum	Depicts a progression of control tactics from officer presence to deadly force.	Uses a "branching" methodology oriented toward the actions of the officer based on compliant or non-compliant behavior and available force options.
Non-linear Use-of-Force Continuum	Depicts a progression of control tactics from officer presence to deadly force.	Uses a "branching" methodology oriented toward the actions of the suspect based on deadly or non-deadly cue indication and actions associated with active or passive resistance.
UoF Continuum Wheel design	Depicts a progression of control tactics from officer presence to deadly force.	Uses a wheel design that positions communication, soft control, and de-escalation as considerations to non-compliant behavior.
UoF Continuum Non-descript design	Depicts a progression of control tactics from officer presence to deadly force.	Emphasizes the suspect's role in UoF decision-making. Strips any appearance of a hierarchy or specific path for officers to follow when considering force.
National Decision Model	Considers control tactics but only in stage 4 of the decision-making process.	Involves a holistic consideration regarding use of force by using reflective questioning throughout a five-stage decision-making process emphasizing mission, values, risk, and the protection of human rights.
Critical Decision Model	Considers control tactics but only in stage 4 of the decision-making process.	Similar to the National Decision Model, involves a holistic consideration regarding use of force by using reflective questioning throughout a five-stage decision-making process emphasizing ethics, values, proportionality, and the sanctity of human life.
Naturalistic Decision-Making Model		Diverges from traditional UoF models emphasizing intuition, experience, and pattern recognition as primary drivers to critical decision-making.
Take-the-First Heuristic Model		Similar to naturalistic decision-making, but relies on expertise and the near automatic generation of a best first option.

OODA Cycle

The "OODA" acronym stands for "Observe, Orient, Decide, and Act". The model was

developed in the 1950's by U.S. Air Force Colonel John Boyd to aid pilots in air-to-air combat

(Osinga, 2007). Boyd's (1986) "OODA cycle" is often depicted as a simple sequential process reflecting decision and action cycles emanating from subconscious and conscious acts of observation and orientation (Leland, 2009). Hoffman et al. (2014) describes the process as a "bridge between sensation and memory" (p. 88).

The model is often paired with other use-of-force models and used in a law enforcement capacity to demonstrate action-reaction responses to public encounters. When applied in the form of *rapid OODA looping*, the concept allows one to gain a tactical advantage over another to stop the threat (Osinga, 2005). In the context of a potentially violent encounter, the OODA loop concept suggests that an officer's success is significantly dependent upon the officer's ability to quickly recognize the threat, cognitively process what the threat is and how it will impact himself/herself or others, decide what force options are needed and available to stop the threat, and then act immediately on a decision to stop or mitigate the threat. If successful, the violent threat is forced to react to the officer's actions, which creates a tactical advantage for the officer (NCJA, 2017).

Force Continuum Models

Police organizations and training academies across the United States employ different designs that fall within the framework of the "Force Continuum Model". The Force Continuum Model was developed in the 1960's as a guideline for training officers to use force progressively along a continuum (Alpert & Dunham, 1997; Sykes & Brent, 1980; Terrill, 2001). Geller and Scott (1992) describe the force continuum concept as "a spectrum of control tactics from body language and oral communication to weaponless physical control to non-lethal and lethal measures" (p. 309). Most force continuum models are similar and use the design of a pyramid,

step, or ladder to illustrate considerations along a continuum of available options (Brown, 1994).

Figure 2.1 depicts a pyramid design. These force continuum designs were envisioned as mental
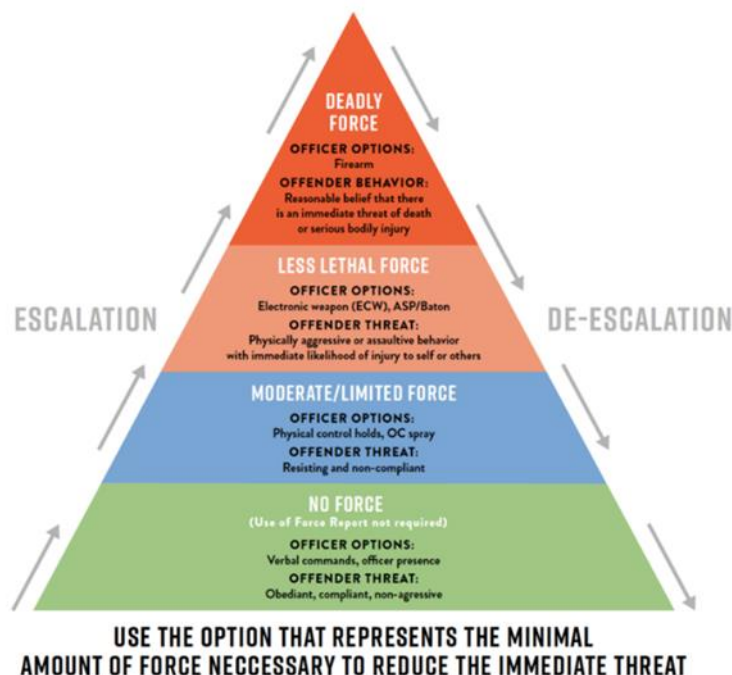
Figure 2.1 Use of Force Continuum

Note. Adapted from Philadelphia Police Department. (2015). *Use of force – Involving the discharge of firearms* (Directive 10.1). Retrieved from https://phillypolice.com/assets/directives/PPD-Directive-10.1.pdf, p. 4.

models to be called upon, reviewed, and used in fractions of a second to make proper UoF

decisions (Remsberg, 1986). Evolving continuum concepts have moved away from linear

designs, like pyramids, to modified linear, non-linear, wheel, and non-descript designs to create

less rigid utility and encompass more variables that influence use-of-force decision-making

(Aveni, 2003).

     Modified Linear Continuums. "Modified-linear" continuums, such as the one depicted

in Figure 2.2 use a "branching" methodology oriented toward the actions of the officer and force

options available.
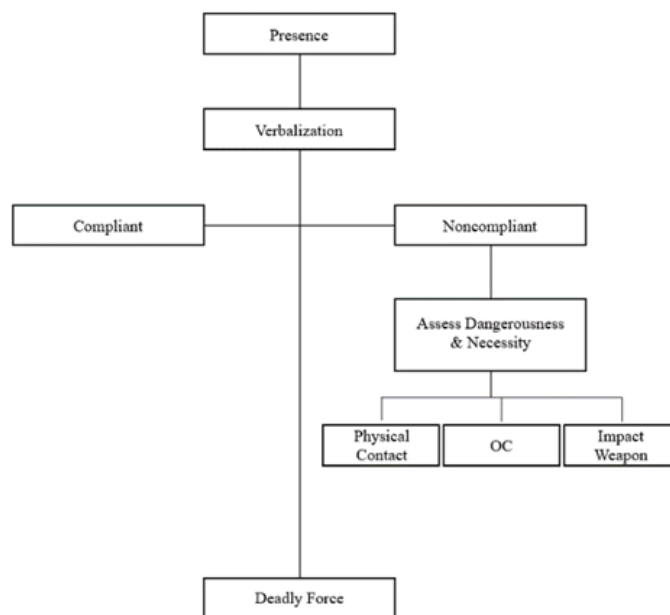
Figure 2.2 FBI "Suggested Use-of Force Model"

Note. Adapted from Jett, M. B. (1997). Pepper spray: Training for safety. FBI Law Enforcement Bulletin. Retrieved from https://leb.fbi.gov/file-repository/archives/november-1997.pdf/view. p. 20. Aveni, T. J. (2003). The force continuum conundrum. *Law and Order, 51*(12), p. 76 also uses this example in demonstrating different continuum designs.

Non-Linear Designs. Non-linear designs, such as the one depicted in Figure 2.3 also use

a branch design but flow from the suspect's actions and incorporate branching for non-compliant
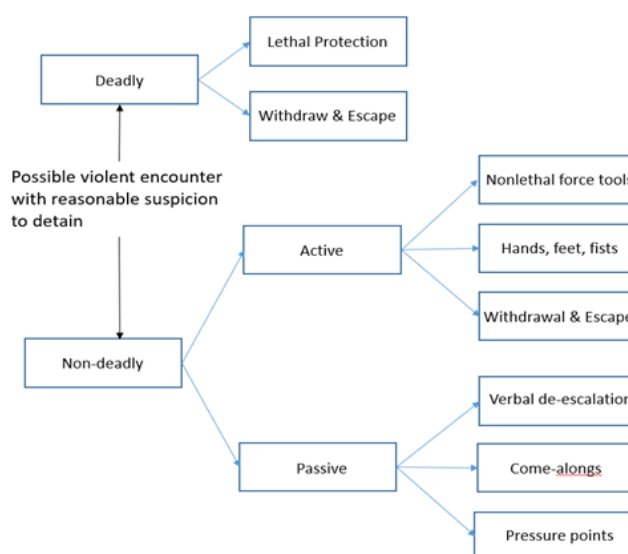
Figure 2.3 Branch Decision Model

and non-deadly behavior in terms of active and passive resistance.

Wheel Variants. Wheel variants, such as the one depicted in Figure 2.4 position "communication", "soft" control", and "de-escalation" as considerations along a wheel of compliant and non-compliant behavior. Williams (1994) offered the wheel design to counter
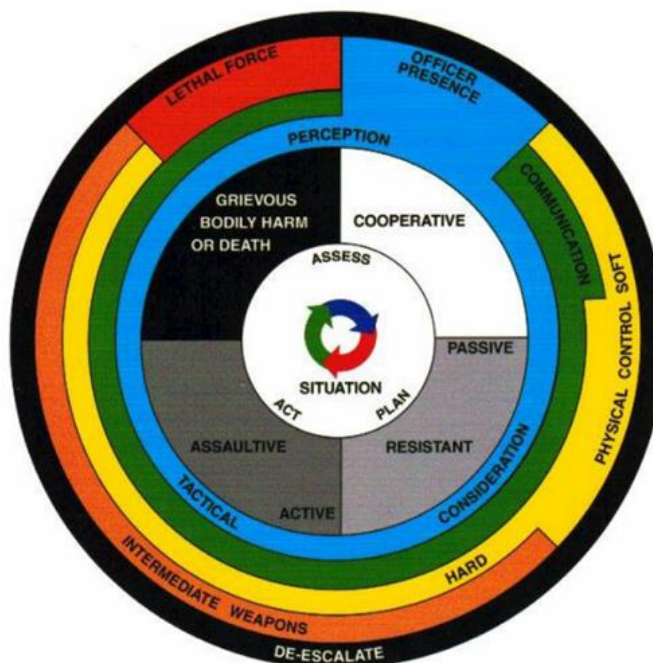
Figure 2.4 National Use of Force Framework, 2000

Note. Adapted from Butler, C. (2009). *The use of force model and its application to operational law enforcement – Where have we been and where are we going?* Retrieved from http://www.cacole.ca/resource%20library/conferences/2009%20Conference/Chris%20Butler.pdf.

hierarchical thinking while advancing "reasonable force" as an alternative to either escalation or de-escalation. The wheel design represents entry into a use-of-force situation; emphasizing how the officer should assess, plan, and respond to the situation while constantly assessing changes in cooperative and assaultive behavior and considering options devoid of linear progression among available force options (Butler, 2009).

Nondescript Designs. Nondescript designs, like the one depicted in Figure 2.5, deviate

from the previous designs in their simplicity and absence of force options from the model. This

is done to emphasize the suspect's role in use-of-force, to encourage reference to respective

Figure 2.5 Force Option Model

Note. Adapted from NCJA (2017). *Subject control and arrest techniques* (Lesson Plan). Salemburg, NC: NCJA, p. 21.

department policies and procedures, and strip any appearance of a hierarchy or specific path for

officers to follow when considering force (NCJA, 2017).

Regardless of how the model is graphically depicted, use-of-force is guided by a

continuum structured upon a variety of methods and tools for officers to consider and employ

when resistance to lawful interventions are encountered (Terrill, Alpert, Dunham, & Smith,

2003). The force continuum concept is rooted in force continuum theory which states that

officers should begin at the lowest level of force necessary to affect an arrest and then attempt a

progression of graduating force options as situations escalate and/or require higher levels of

force to achieve compliance (Aveni, 2003; NCJA, 2017). According to Terrill, Alpert, Dunham,

& Smith (2003), the Use of Force Continuum serves to measure police use of force within

guidelines of intended purpose. The question is whether these models serve to structure use-of-

force decision-making or simply serve as conceptualization tools to supplement written policies on use-of-force (Aveni, 2003).

National Decision Model

Police officers in the United Kingdom are taught the "National Decision Model" (NDM). This five-stage model takes the officer from a point of information gathering in Stage 1 to final action in Stage 5 using reflective questioning throughout each stage of the decision-making process. Each stage requires attention to the police mission and values while weighing potential risks and protecting human rights (PERF, 2015). Figure 2.6 demonstrates the flow through each stage of the National Decision Model.
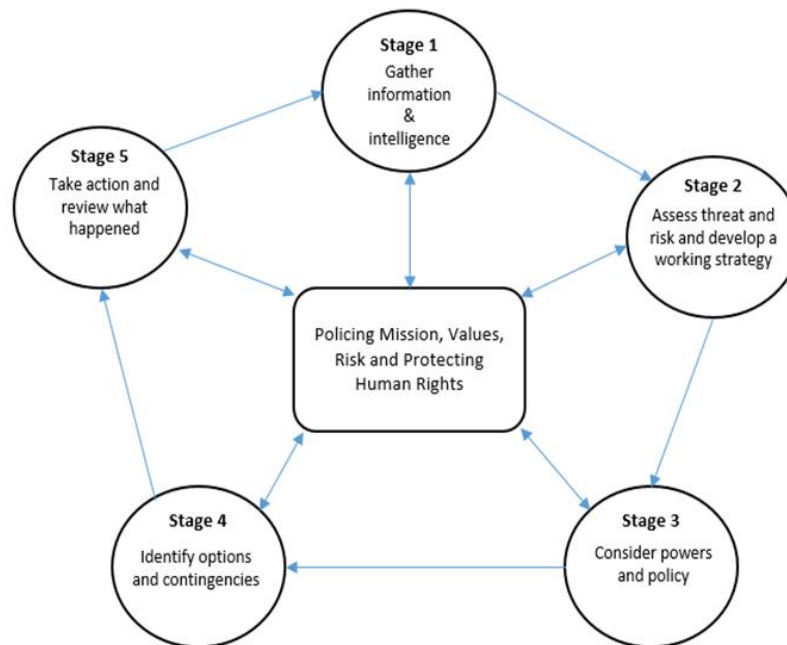
Figure 2.6 National Decision Model (NDM)

Note. Adapted from Police Executive Research Forum. (2015). *Re-engineering training on police use of force*. Washington, DC: Police Executive Research Forum, p. 44.

Stage 1 requires the officer to define the situation based on available information or intelligence. Stage 2 challenges the officer to develop a working strategy to mitigate threats and

risks while maximizing opportunities and benefits. Stage 3 requires consideration to power, policy, and other obligations. Stage 4 asks the officer to identify suitable responses to stop the threat that are "proportional, lawful, authorized, necessary, and ethical" (PERF, 2015, p. 44). Lastly, stage 5 challenges the officer to select among identified options and take action.

Critical Decision-Making Model

The "Critical Decision-Model" (CDM) is a five-step critical thinking process based largely on the United Kingdom's National Decision Model. This model is built around an ethical core and the five-steps that surround this core support the ideals and standards in the center (PERF, 2016). Figure 2.7 graphically depicts the CDM and demonstrates the flow of each step.

Figure 2.7 Critical Decision-Making Model

Note. Adapted from Police Executive Research Forum. (2016). *Guiding principles on use of force*. Washington, DC: Police Executive Research Forum, p. 81.

Just like the NDM, stage 1 requires the officer to collect available information or intelligence. Stage 2 challenges the officer to assess threats and risks. Stage 3 requires

consideration to power and policy. Stage 4 asks the officer to identify suitable courses of action and stage 5 challenges the officer to act and reassess.

Naturalistic Decision Making (Klein, 1993)

As stated previously, rapid decision-making is valued as a critical skill in high-velocity situations and Klein's "Naturalistic Decision-making Model" has shown promise as a practical decision-making guide for exigent situations that are ill-defined and have competing goals (Klein, Calderwood, & Clinton-Cirocco, 2010). The model differs from more deliberate decision-making models in that decisions are made rapidly using intuition and are not focused in ideal or optimal outcomes. Rather, the model relies on a give-and-take relationship whereby less than ideal decisions might be made in high-velocity situations, but the speed with which decisions are made often creates a tactical advantage to the user (Klein, 2003).

The term "Naturalistic Decision Making" exemplifies an evolution in critical decision-making by focusing on the intuitive decision-making process which is built upon experiences that enable the decision-maker to recognize what to do and make decisions rapidly with little contemplation or analysis (Leland, 2009). The concept of Naturalistic Decision Making moves beyond a focus on task structure; awareness; cognitive control; and rate of data processing (Cader, Campbell, & Watson, 2005) instead focusing on scripts, schemas, and mental models as cognitive strategies for expert judgement and decision-making (Klein, 2008).

Naturalistic Decision Making is underpinned by "recognition-primed decision making" (RPD) which fuses the way decision-makers size up the situation and make decisions based on intuition (Klein, 1989; Klein, 2003). RPD is an intuitive strategy that relies on pattern matching for option selection. This strategy connects observed patterns within a situation to a "repertoire" of like experiences from which decisions are made (Klein, 2008, p. 457; Klein, Calderwood, &

Clinton-Cirocco, 2010). The decision-maker formulates courses of action based on the output of

their mental repertoire which is then immediately evaluated for the first workable option (Klein,

2008). According to Leland (2009), the RPD process "is guided and controlled through tactical

judgements based on individual perceptions as circumstances unfold" (p. 46). The intent being

to find a workable solution as quickly as possible to mitigate the time factor in ill-defined,

rapidly evolving, and chaotic situations.

The Naturalistic Decision Making movement emerged from earlier models within the

judgement and decision-making tradition. Among these models were the cognitive continuum

model (Hammond, Hamm, Grassia, & Person, 1987), image theory (Beach, 1990), the search for

dominance structures (Montgomery, 1993), and the skills/rules/knowledge framework and

decision ladder (Rasmussen, 1986). While the central goal of Naturalistic Decision Making is to

elevate the importance of intuitive decision-making based on cue recognition (Kahneman &

Klein, 2009), the process requires expert judgement in the face of uncertainty, time pressure,

high-stakes environments (Orasanu & Connolly, 1993).

Take-the-First Heuristic Model

The take-the-first (TTF) heuristic model advanced by Ward, Ericsson, and Williams

(2013) considers the near automatic generation of a best first option by recognizing that experts

generate better options first with little concurrent evaluation of additional options. The model

suggests that "experts capitalize on their extensive experience in relevant environments by

acquiring learned associations between candidate options and the current situation, as well as

between options themselves" (p. 232). While both the TTF model and Naturalistic Decision

Model rely on the intuitive generation of options, the TTF model predicts that poorer decisions

are made as more options are generated. The TTF model is premised in the non-random

generation of intuitive options and that the best options are generally recognized in the first options generated, therefore further exploration for additional options beyond those first generated is unnecessary (Ward, Ericsson, and Williams, 2013). Interestingly, Ward, Ericsson, and Williams (2013) surmise that training in RPD and TTF should focus on the perceptual learning of important situational patterns, the recognition of these pattern in the environment, the ability to generate "best" responses to recognized patterns, and the ability to assess "best" options immediately without the need for subsequent option generation (p. 233).

Cognitive Readiness Defined

Cognitive readiness is a multidimensional construct encompassing a range of intellectual, psychomotor, psychosocial, and affective skills that interplay at moments of crisis (Bolstad, Cuevas, Babbitt, Semple, & Vestewig, 2006; Faunta & Schatz, 2012). Morrison and Fletcher (2002) define cognitive readiness in terms of a broad representation of knowledge, skills, behaviors, attitudes, and attributes needed to perform effectively in complex, uncertain, and chaotic environments. Considered an important construct at both team and individual levels (Bolstad, Cuevas, Babbitt, Semple, & Vestewig, 2006), the term as been broadened to include both mental and social competencies needed to sustain competent professional performance in stressful, ambiguous, and unpredictable environments (Bolstad, Cuevas, Costello, and Babbitt, 2008).

Cognitive readiness entered the military lexicon in 2000 and is cited as an essential construct for preparing military personnel for the unexpected (Etter, Foster, & Steele, 2000). The term is used to describe the "mental preparation (including skills, knowledge, abilities, and personal dispositions) needed to establish and sustain competent performance in the complex and unpredictable environment of modern military operations" (Fletcher, 2004, p. 1). The term has

evolved from historical contexts that focus on "operational readiness", which represents a broader range of preparedness (Fletcher & Wind, 2014). Cognitive readiness, however, narrows the range of operational preparedness by describing one's individual mental preparation for the unexpected (Fletcher, 2004).

Although the term has been applied significantly in military contexts (Fautua & Schatz, 2012), it is relevant to all contexts from which crisis or the potential for crisis exists. The term is rooted in three basic abilities: an ability to recognize patterns in chaotic situations, an ability to modify problem solutions based on the recognition of these patterns, and action based on the modified solution selected (Fletcher, 2001). As stated by Fautua and Schatz (2012), achievement of cognitive readiness "ultimately manifests as successful pattern recognition, creative adaptability, and intuitive decision-making in the field" (p. 277).

The term is grounded in the stress-decision-response relationship. Many hypotheses, theories, and models have been proposed to explain and/or reduce the negative effects associated with this relationship. Examples include: Yerkes and Dodson's (1908) introduction of the inverted-U hypothesis; drive theory (Hull, 1943); processing efficiency theory (Eysenck & Calvo, 1992); attention control theory (Eysenck, Derakshan, Santos, & Calvo, 2007); the National Decision Model (PERF, 2015); the Critical Decision Model (PERF, 2016); the Naturalistic Decision-making Model (Klein, 2008); and the Take-the-First Heuristic Model (Ward, Ericsson, and Williams, 2013). Each provide insights into our primal conscious and subconscious response to crisis and they establish the foundation from which cognitive readiness is envisioned. Table 2.2 highlights key aspects of these hypotheses, theories, and models.

Table 2.2

Stress-Decision-Response Relationship – Evolving Hypotheses, Theories, and Models

Hypotheses, Theories, and Models	Key Aspects
Yerkes-Dodson Law (Yerkes & Dodson, 1908)	Predicts a negative quadratic relationship between arousal and performance ('inverted-U' hypothesis).
Drive Theory (Hull, 1943)	Predicts that increases in drive lead to increases in the probability of dominant responses. When tasks are easy, dominant responses are usually correct and when tasks are difficult, dominant responses are usually incorrect.
Processing Efficiency Theory (Eysenck & Calvo, 1992)	Central tenet is that cognitive anxiety impairs the processing and storage capacity of the working memory resulting in diminished mental capacity for a given task.
Attention Control Theory (Eysenck, Derakshan, Santos, & Calvo, 2007)	Anxiety/worry impairs task performance by diverting some of the processing and storage capacity of the Working Memory system resulting in cognitive overload on tasks that places high demand upon Working Memory.
National Decision Model (PERF, 2015)	Attempts to reduce the negative effects associated with the stress-decision-response relationship in potential UoF situations through the application of a five-stage decision-making process that focuses on mission, values, risk and protecting human rights.
Critical Decision Model (PERF, 2016)	Attempts to reduce the negative effects associated with the stress-decision-response relationship in potential UoF situations through the application of a five-stage decision-making process that focuses on ethics, values, proportionality, and the sanctity of human life.
Naturalistic Decision-making Model (Klein, 2008)	Advances recognition-primed decision-making as an effective decision-making process for proficient personnel, under conditions of extreme time pressure, and in environments where the consequences could result in catastrophic loss.
Take-the-First Heuristic Model (Ward, Ericsson, and Williams, 2013)	Advances the selection of the "best-first-option" by experts when functioning under conditions of extreme time pressure, and in environments where the consequences could result in catastrophic loss.

For over a decade, the U.S. military has been working to define the standards for cognitive readiness in such areas as sense-making, problem-solving, adaptability, mindfulness, and attentional control (Dempsey, 2011; Fautua & Schatz, 2012; Gideons, Padilla, & Lethin, 2008). Morrison and Fletcher (2002) led the research focus by identifying situational awareness, adaptability, transfer, metacognition, automaticity, problem-solving, decision-making, pattern

recognition, creativity, leadership, and emotion as fundamental competencies for cognitive

readiness. Fletcher and Wind (2014) have since revised Morrison and Fletcher's (2002)

competency listing to reflect more cognitive emphasis in the factors that define cognitive

readiness. As shown in Figure 2.8, the model produced by Fletcher and Wind adopts skills and

attributes associated with adaptability, adaptive expertise, creativity, decision-making, adaptive

problem solving, resilience, situational awareness, and teamwork. They accept situation
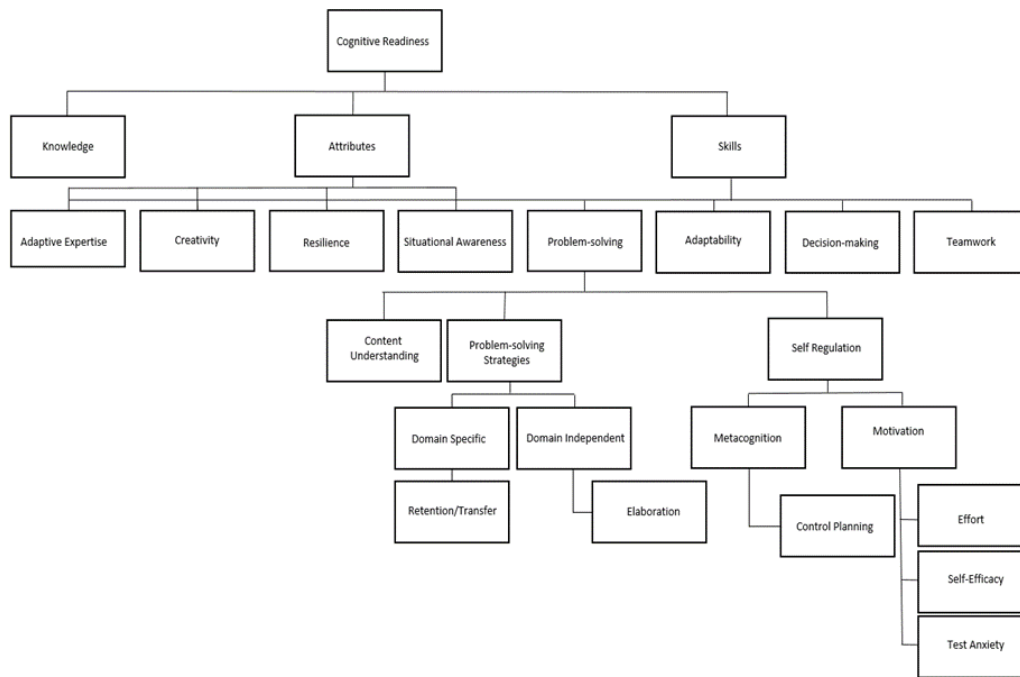
Figure 2.8 CRESST Cognitive Readiness Model

Note. Figure 10 was adapted from Ayala, D. (2008). The effects of cognitive readiness in a surface warfare
simulation (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses database. (UMI No. 3325168),
p. 19.

awareness, problem-solving, metacognition, decision-making, adaptability, and creativity as core

competencies to cognitive readiness, but position teamwork, communication, adaptive expertise,

interpersonal skills, resilience, and critical thinking as additional competencies to be considered.

O'Neil et al. (2014), conversely, positions various competencies into specific knowledge,

skills, and attribute categories from which he established a framework for understanding,

training, and evaluating cognitive readiness. Known as "O'Neil's Cognitive Readiness Model" (see Figure 2.9), this model eliminates transfer, memory, automaticity, and emotion from those proposed by Morrison and Fletcher. O'Neil's model also excises adaptive expertise from adaptability as a skill and adds teamwork and communication.
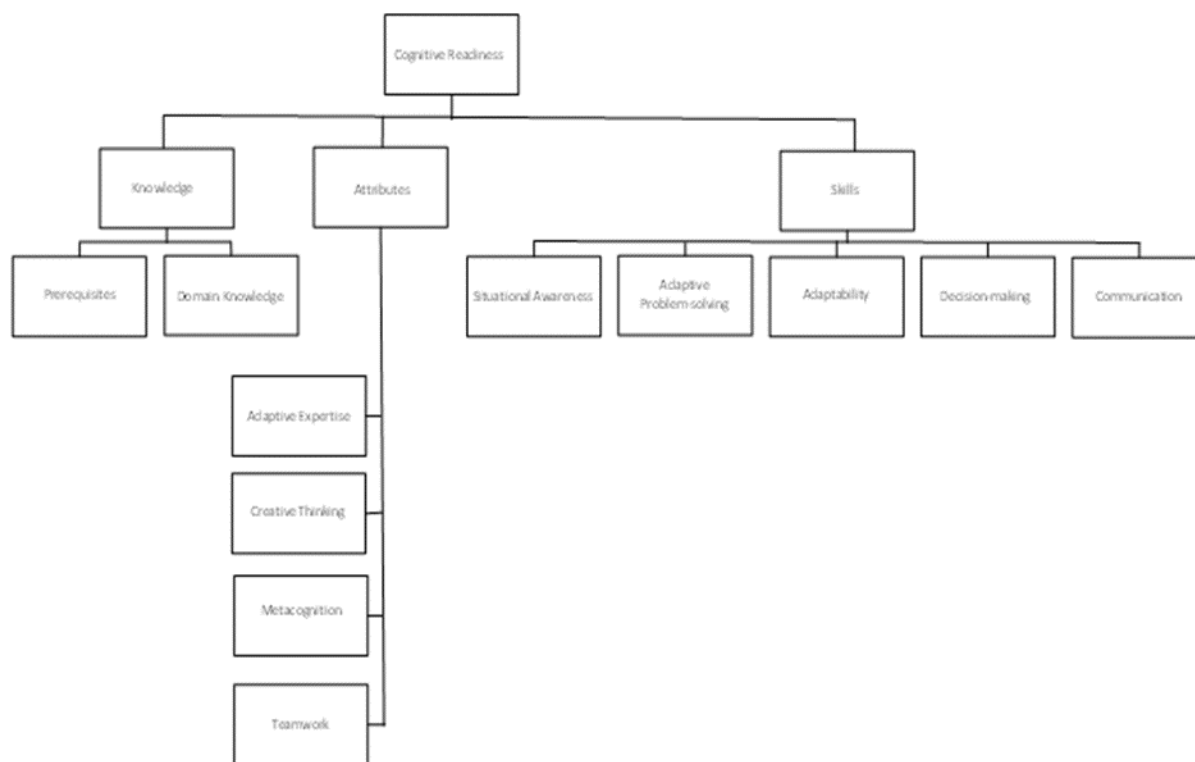
Figure 2.9 O'Neil's Cognitive Readiness Model

Note. Figure 11 was adapted from O'Neil, H. F., Lang, J., Perez, R. S., Escalante, D. & Fox, F. S. (2014). What is cognitive readiness. In H. F. O'Neil, R. S. Perez, & E. L. Baker (Eds.), *Teaching and measuring cognitive readiness* (p. 5). New York, NY: Springer. doi:10.1007/978-1-4614-7579-8_1

As demonstrated in Table 2.3, of the nineteen competencies identified, six are accepted among the group of researchers as fundamental. These competencies include: situation awareness, problem-solving, metacognition, decision-making, adaptability, and creativity.

Table 2.3

Competencies of cognitive readiness

Attribute	Morrison & Fletcher (2002)	O'Neil (2014)	Fletcher & Wind (2014)
Situation Awareness	X	X	X
Problem-solving	X	X	X
Metacognition	X	X	X
Decision-making	X	X	X
Memory	X		
Adaptability	X	X	X
Creativity	X	X	X
Transfer	X		
Pattern Recognition	X		X
Automaticity	X		
Leadership	X		
Emotion	X		
Teamwork		X	X
Communication		X	X
Adaptive Expertise		X	
Interpersonal Skills			X
Resilience			X
Critical Thinking			X
Creative Thinking			X

Note. Table 3 was adapted from Fletcher, J. D. & Wind, A. P. (2014). The evolving definition of cognitive readiness for military operations. In H. F. O'Neil, R. S. Perez, & E. L. Baker (Eds.), *Teaching and measuring cognitive readiness* (p. 29). New York, NY: Springer. doi:10.1007/978-1-4614-7579-8_1

Competencies of Cognitive Readiness

Competencies are defined as a "set of behaviors that are instrumental in the delivery of desired results or outcomes" (Bartram, Robertson, & Callinan, 2002, p. 7). Table 2.4 demonstrates similarities and differences among the core competencies identified. Elaborations are then presented based on the researcher's review of the literature regarding their relevance to the greater construct of cognitive readiness for this study.

Table 2.4

Competencies of cognitive readiness defined

Competency	Morrison & Fletcher (2002, p. III-2-III-3)	O'Neil et al. (2014, p. 6)	Fletcher & Wind (2014 p. 31-44)	Hoffman et al. (2014) & Others
Situation Awareness	Ability to perceive and comprehend oneself in relationship to the present environment and to project status into the near future (Endsley, 1998).	Being aware of what is happening around you, to understand how information, events, and your own actions affect your goals and objectives, both now and in the future. The perception of elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future (Endsley, 1995, p. 36)	Deliberate process based on Pattern Recognition needed to identify in any current what elements are for achieving mission goals and to project from that how they will evolve (p. 31). The perception of elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future (Endsley, 1995, p. 36; Endsley, 1998; Endsley, 2006)	A bridge between information and dynamic mental models of the current situation connecting sensation and memory (Hoffman et al., 2014, p. 88).
Memory	Ability to recall and/or recognize information and patterns for which there are likely solutions.			Short and long-term storage systems characterized by the amount of information that is stored and the durability of encoded information (Baddeley, 1996).
Problem-solving	The ability to analyze the current situation, understand goals, and develop a plan to reach them.		An effort to achieve a goal by transforming a given situation into an objective situation when it is not immediately obvious how to make the transformation (Mayer, 2008; Mayer & Wittrock, 1996)	

			Characterized as cognitive based, goal directed, and dependent on the capabilities of the problem-solver (Baker & Mayer, 1999)	
Metacognition	The ability to monitor, assess, regulate, and enhance one's own cognitive processes.	Awareness of one's thinking. Composed of planning and self-monitoring. Planning for and achieving a goal and self-checking to monitor goal achievement (O'Neil, 1999)	Executive functions of cognition pertaining to knowledge and regulation of one's cognitive processes (p. 33).	"Reflective training" (Hoffman et al., 2014, p. 47) Refers to control, modification, and interpretation of worrying thoughts (Cartwright-Hatton & Wells, 1997).
Decision-making	The ability to assess different plans of action while evaluating the probable impact of each, selecting an action plan, and committing resources to it.	Use of situation awareness information about the current situation to help evaluate the utility of potential courses of action and then execute a course of action and judges its effectiveness. It involves the ability to follow appropriate protocols, follow orders, and take the initiative to complete a mission (Hussain, Bowers, Blasko-Drabik, 2014)	Rapid and satisficing decisions made in response to experience-developed patterns in complex, high-stakes, exigent situations with ill-defined and often multiple goals (Fletcher & Wind, 2014; p. 35; Klein, 2003)	
Adaptability		Functional change (cognitive, behavioral, and/or affective) in response to actual or correctly anticipated alterations in environmental contingencies (Banks, Bader, Fleming, Zaccaro, & Barber, 2001, p. 4)	Ability to deal with unanticipated situations and varying contexts (Burns & Freeman, 2010; Fletcher, 2004; Morrison & Fletcher, 2002; Zaccaro, Weis, Chen, & Matthews, 2014).	Ability to employ multiple ways to succeed and the capacity to move seamlessly between them (Hoffman et al., 2009). Effective change in response to altered situations (Mueller-

		Hanson, White, Dorsey, & Pulakos, 2005)
Creativity	Ability to generate, adapt, and modify to novel situations rapidly.	Ability to produce and implement innovative, nonobvious responses to both expected and unexpected situations (p. 37).
Transfer	Being able to apply what is learned in one performance context to a different performance context.	
Pattern Recognition		Abstract from experience, identify the familiar, and distinguish it from the unfamiliar and unexpected (p. 38). A rapid cognitive activity to identify, organize, and separate out what matters in sensory input from what does not.
Automaticity	Allows very rapid responses (e.g., to emergencies) that do not substantially impair other cognitive processes.	
Leadership	Motivational patterns and a combination of technical, conceptual, ethical, and interpersonal competencies that encourage support from others in carrying out a designated plan of action.	
Emotion	The ability to devise and select appropriate plans of action despite states of heightened emotion and stress.	

Teamwork	A predisposition to act as a team member centering on adaptability, coordination, decision-making, interpersonal skills, leadership, and communication (O'Neil, Wang, Lee, Mulkey, & Baker, 2003)	Planning and coordination of independently performed tasks, collaborative problem-solving, and communication accompanied by strict control over extraneous variables (Bowers, Salas, Prince, & Brannick, 1992). Balance in context-specific task-work and context-independent Teamwork (Bowers & Cannon-Bowers, 2014).
Communication	Timely and clear provision of information (Bowers, Braun, & Morgan, 1997) and the ability to know whom to contact, when to contact, and how to report (Hussain, Bowers, & Blasko-Drabik, 2014)	Verbal, visual, and other non-verbal articulation of messages that are reliably received and well understood (p. 41).
Adaptive Expertise	Deep comprehension of the knowledge of a problem domain. Adaptive experts understand when and why particular procedures are appropriate or not (Zaccaro & Banks, 2004; Ericsson, 2014)	
Interpersonal Skills		Interdependent with communication and teamwork, concerning an ability to relate to and deal with others, regardless of social or cultural background, especially, but not exclusively, for purposes of communication, coordination, and cooperation (p. 42).

Resilience		The ability to maintain healthy, stable, and productive functioning despite being exposed to highly disruptive, traumatic environments or events (Bonannon 2004).	Ability to recover from a destabilizing perturbation in the work as it attempts to reach its primary goal (Hoffman et al., 2014, p. 146).
		Identified with "hardiness" being the basis for resilience, inclusive of attitudes related to commitment to experience, control over situations, and challenge to prevail (Bartone, 1999).	Positive adaptation in context of significant adversity or risk (Masten & Reed, 2002).
Creative Thinking	Ability to generate ideas and solutions that are novel, appropriate, and of high quality (Hong & Milgram, 2010)		
Critical Thinking		Asking the right question, collecting, organizing, and accessing relevant data, avoiding bias, evaluating assumptions, and generating and evaluating appropriate hypotheses (Sternberg, Roediger, & Halpern, 2006).	

Situation Awareness

Articulated by O'Neil et al. (2014), "[s]ituation awareness is generally defined as the ability to perceive and comprehend oneself in relationship to relevant elements of the present environment and then accurately project different courses of action into the future (p. 9). According to Morrison and Fletcher (2002), situation awareness "represents the initial perceptual analyses that precede decision and action" (p. II-1). The variables of time and attention are critically important to situation awareness because the absence of either is likely to result in an improper assessment of what is happening in terms of threat perception, option evaluation, and reaction time (Lewinski, 2002). A proper threat evaluation necessitates that an officer must first observe the pre-assaultive and/or assaultive behaviors of a person of interest and orient to them prior to formulating a decision and taking action. Therefore, situation awareness is a deliberate process that is based on pattern recognition of relevant cues and an assessment of actions within the environment to achieve mission goals (Fletcher & Wind, 2014).

Problem-solving

Problem-solving is a cognitive process directed at transforming a given situation into a desired situation when no obvious method of solution is available to the problem-solver (O'Neil et al., 2014, p. 8). Problem-solving encompasses an analytical ability requiring the identification of tasks leading to targeted goals and the development of a plan to achieve these goals (Hayes, 1981). Thus, problem-solving is the cognitive effort for resolving a given unsolved situation when readily available solutions are not present (Fletcher & Wind, 2014).

Metacognition

Metacognition involves an ability to monitor oneself toward the achievement of a goal (O'Neil, 1999; Zaccaro & Banks, 2004). Often defined as "thinking about thinking",

metacognition refers to the executive functions of thought needed to monitor, assess, and regulate one's own cognitive processes (Flavell, 1976; Mueller-Hanson et al., 2005). O'Neil et al. (2014) view metacognition as "the process to mentally plan and check on one's progress toward a goal" (p. 10). Highlighted by Fletcher & Wind (2014), metacognition diverges from Klein's (2003) notions of intuitive decision-making in that aspects of unconscious action are brought under conscious control as one becomes aware of their own cognitive processes during task performance.

In the context of developing cognitive readiness for crisis encounters, the challenge rests with building the necessary schemas and mental models that provide officers with deep experiences and opportunities for metacognition so as to raise personal levels of performance to that of high proficiency. This not only requires expert level training in the rapid assessment of situations and the recognition of appropriate actions (Hoffman et al., 2014), but also includes appropriate feedback mechanisms and opportunities for repeated practice to inform the learner and sustain high proficiency.

Memory

Memory is described as an active, reconstructive ability to recall and/or recognize patterns that will lead to likely solutions (Fletcher, 2004). Memory is supported by "encoding specificity", which relates present condition to memory and recall of information and transfer of appropriate processing, which stresses the actions performed during encoding and retrieval (Morris, Bransford, & Franks, 1977; Tulving & Thompson, 1973). Decision and action are products of memory (Ward, Ericsson, & Williams, 2013), each influenced by the time constraints and emotional stress of a critical encounter (Artwohl & Christensen, L. W., 1997; Gilmartin, 2002; Kleider, 2009). Working memory limitations arise from the inability to actively maintain

and retrieve information while under the duress of highly interfering competitors (Kleider, 2009). Research has shown that memory is fallible, even under optimal encoding conditions. Morgan (2004) found significant impairments to memory, in terms of recognition of a target individual, following high stress interrogations. Focusing on the performance of police officers, Hope et al. (2012) found significant memory impairment, in terms of recall and recognition, following physical exertion and Kleider (2009) found significant aggressive shooting behavior among low working memory capacity persons.

Decision-making

Decision-making is a cognitive process leading to the selection of a course of action among variations (O'Neil et al., 2014). The decision-making process emphasizes the recognition of learned patterns, the review and selection of appropriate courses of action, and the allocation of resources to a problem (Slovic, Lichtenstein, & Fischoff, 1988). It follows observation and orientation within the OODA cycle and draws on situational awareness as a precursor for successful decision-making (O'Neil et al., 2014; Osinga, 2005). Effective decision-making also requires extensive domain knowledge and mental model formation (Cohen et al., 2000).

Optimal models of decision-making suggest the necessity for reflective processes and require the generation and evaluation of options. However, time and attention pressures have been found to significantly affect one's ability to generate and analytically sort through a variety of options (Klein, Calderwood, & Clinton-Cirocco, 2010). The influence of distress has also been shown to constrain performance when optimal decision-models are used due to pressures that create cognitive overload (Kahneman & Klein, 2009). As such, people are less likely to adhere to the principles for optimal decision-making when in a state of distress (Klein, 2008). In the context of a violent encounter, diagnostic decision-making poses a serious challenge to police

officers because of the rapid changing nature of such conflicts. For this reason, there has been a shift toward decision models that require less deliberation, relying on intuition based on mental model formation generated from experience to increase the probability of a successful resolution with minimal harm to the officer or the encountered subject (Klein, 2008; Ward, Ericsson, & Williams, 2013).

Adaptability

Adaptability centers on the idea that the work domain is constantly changing (Hoffman et al., 2014), therefore, mental models must change (Mumaw et al., 2000). Adaptability, often referred to as "cognitive agility" (Fletcher, 2004) interrupts the linear progression of data collection, analyzes, and action to acting and evaluating based on present data. This allows for faster reaction to changes in the environment (O'Neil et al., 2014; Tucker & Gunter, 2009). Adaptability is, "an ability to employ multiple ways to succeed and the capacity to move seamlessly between them" (Hoffman et al., 2009). As cited by Fletcher and Wind (2014), "adaptive adjustment to [challenges in the workforce, military, and otherwise], especially those that are unexpected, is an imperative for individuals and organizations in all sectors" (p. 37). Adaptability includes high-level skill development in areas associated with mental model formation, mental projection to the future, and making sense of complex causality (Hoffman et al., 2014).

Creativity

Creativity is described as the ability to generate, adapt, and modify courses of action rapidly, as required, in response to variable situations (Klahr & Simon, 2001). Fletcher (2004) describes creativity as "an ability to devise plans and actions that differ from and improve upon 'school solutions' by improving the probability of success" (p. 3). Torrence (1999) defines

creativity in terms of fluency (ability to produce many ideas), novel ideas, flexibility (ability to produce or use a variety of approaches), and elaboration (ability to fill in details). Fletcher and Wind (2014) describe creativity as an ability to produce and implement innovative, nonobvious responses to both expected and unexpected situations.

Transfer

Transfer is described as the ability to apply what is learned in one context to a different performance context. "Low-road" transfer is observed in the application of procedural knowledge gained in one context and applied to another. "High-road" transfer is observed in the application of principles abstracted from a set of contexts and applied to another (Larsen-Freeman, 2013; Solomon & Perkins, 1989). In the police UoF context, both high- and low-road transfer is needed to transition the knowledge, skills, attitudes, attributes, and behaviors learned in the training environment to the multitude of field situations faced.

Pattern Recognition

Fletcher and Wind (2014) view pattern recognition as abductive process whereby sensory information is integrated with working memory and connections are made to patterns stored in long-term memory. The process is developed from experience allowing one to identify the familiar and distinguish it from the unfamiliar or unexpected. Recognized as a rapid cognitive activity, key information is internalized instead of lost during chaotic, complex, and confusing situations leading to higher level situational awareness and decision-making. Pattern recognition relies on the recognition of cue indications. The pattern that emerges from recognized cues provides insights into what is happening in the moment and gives context to projected courses of action; which provides the basis for transfer to like or novel situations (Fletcher & Wind, 2014; O'Neil et al., 2014).

Automaticity

Automaticity refers to action, in terms of thinking and doing, with limited conscious

attention (Shiffrin & Schneider, 1977). The advantage of automaticity allows for a reduction in

cognitive load and cognitive processing relying less on working memory, thereby, creating

opportunity for compressed movement from thought to action (Hoffman, et.al. 2014; Kleider &

Parrott, 2009). While efficient, in terms of the utilization of attentional resources, automaticity

operates outside of awareness allowing space for involuntary and unintentional action (Hoffman,

et.al. 2014). In addition, automaticity requires large amounts of practice with feedback and

overlearning relying mostly on implicit knowledge and perceptual skill rather than declarative

knowledge (Hoffman et al., 2014).

Leadership

Leadership is the vehicle through which effective law enforcement services are delivered

and the knowledge, skills, attitudes, and behaviors of its service deliverers are maintained.

Leadership encompasses an array of skills and competencies needed to support others in carrying

out a designated course of action (Yukl, 1989). While many leadership styles and traits exist,

those that appeal to higher ideas and moral values, motivate action to the greater good, and are

adaptive and flexible in nature rise above all others when events challenge the ethos of the

organization and/or individual (Doody & Doody, 2012).

Emotion

Self-awareness of aggression thresholds and possible loss of emotional control have been

a concern in police training and education for decades (Danish & Brodsky, 1969). Police officers

in the Unites States typically operate in a state of hypervigilance due to constant threats that are

inherently part of the role of law enforcement. This constant state of awareness creates

occupational stress which causes police officers to be acutely responsive to perceived acts and behavior that are threatening in nature (Gilmartin, 2002; Marrelli, Gentile, Palmieri, Paduano, & Tatullo, 2014). The occupational stress carried by police officers is transformed and intensified into negative emotion when perceived threats actualize into violent action and behavior (Blum & Polisar, 2004; Gilmartin, 2002; Grossman, 2009). Coping with these negative emotions and acting with a proper response to stop the threat requires cognitive efforts by police officers to not just observe the threat and act, but also process how the threat might produce harm. Officers must then navigate through a maze of possibilities and force options before moving to action. Situations like these create moments of intense emotional fear, anger, anxiety, or discontent that often results in a reflexive action toward natural fight or flight instincts for survival (Grossman, 2009; Ohman, Flykt, & Esteves, 2001).

Teamwork

Teamwork requires people to interact with other people (O'Neil, 2014). In the context of expert teams, this interaction occurs often in times of stress where ineffective performance can have disastrous consequences (Cannon-Bowers, Salas, Converse, 1993). Prichard, Bizo, and Statford (2006) abstracted five common elements from a review of teamwork definitions. They were common goal(s) member interdependency, dynamic exchange of information, coordination of task activities, and structuring of team member roles. Cannon-Bowers, Salas, and Converse (1993) add that expert team members share overlapping cognitive representations of task requirements, procedures, and role responsibilities and their success as a team is greatly dependent upon the convergence of information from its members when decisions must be made at the moment of crisis.

Communication

Communication is both written and spoke, verbal and non-verbal communication, articulating messages that are reliably received and well understood (Fletcher & Wind, 2014). Communication skills are required to formulate, compose, and explain important tasks or to ask and answer key questions (Baker, 2014). Effective communication necessitates sensitivity to the use of appropriate language that is suitable to the culture and environment of the intended audience.

Adaptive Expertise

Adaptive expertise differentiates expert and novice performance. Opre (2015) notes that experts recognize significant features and patterns of information beyond novice attention; experts quickly retrieve relevant information from memory using minimal attentive effort; experts operate with speed and efficiency in their tasks; and experts possess complex cognitive schemas. Adaptive experts function above routine competencies and are typically characterized in terms of flexibility, innovation, and creativity rather than speed, accuracy, and automaticity (O'Neil, 2014). Adaptive expertise is typically defined as the ability to modify expert routines to changing tasks in a specific domain and is closely related to transfer of learning (Opre, 2015). While there are many advantages to building adaptive expertise, Ericsson (2014) notes that extended periods of deliberate practice in a variety of learning environments is needed to develop this attribute.

Interpersonal Skills

Interpersonal skills connote a collaborative nature to work and the need to communicate (Baker, 2014). Described as the ability to relate to and deal with others, regardless of social or cultural background, especially, but not exclusively for purposes of communication,

coordination, and cooperative efforts (Fletcher & Wind, 2014). Interpersonal skills involve listening to and understanding others as well as communicating. It is principally focused on an individual's ability to put himself/herself in another's place (Fletcher & Wind, 2014).

Resilience

Fletcher & Wind (2014) describe resilience in terms of "grit", a refusal to give up despite exposure to highly disruptive or traumatic environments or events (Bonanno, 2004). Grit as an idea connotes passion and perseverance toward challenging goals despite obstacles and setbacks (Duckworth, Peterson, Matthews, and Kelly, 2007). Hoffman et al. (2009) define resilience as "the ability to recover from a destabilizing perturbation in the work as it attempts to reach its primary goals" (p. 146). Intertwined among the various components of resilience is the concept of psychological hardiness. Psychological hardiness is described as consisting of three inter related attitudes: commitment to experience, control over situations, and challenge to prevail (Bartone, 2007). It is a belief in oneself that through effort one can influence events and outcomes (Bartone, Kelly, & Matthews, 2013). Fredrickson, Tugade, Waugh, and Larkin (2003) found that resilient individuals mobilized psychological and cognitive resources to create and maintain hope. Meanwhile, Bartone, Kelly, and Matthews (2013) found the facets of hardiness to be significant predictors of adaptability. Resilience, whether viewed proactively in terms of passion and perseverance or reactive in terms of an ability to recover, the process of adapting lends itself to greater readiness and willingness to face challenging conditions.

Critical Thinking

The police profession has experienced significant change during the last 30 years resulting in increased demands and greater accountability requiring higher-level thinking and reasoning (President's Task Force on 21st Century Policing, 2015). Contemporary police officers

must able to sort through an abundance of information to recognize what is actually occurring and adapt knowledge to novel situations where there is no single correct response. Success in this area requires critical thinking skills. Fletcher and Wind (2014) identify critical thinking as an essential competency for identifying and evaluating alternative satisficing approaches to complex and unexpected situations. Sternberg, Roediger, and Halpern (2006) conclude that critical thinking skills are needed to ask the right questions, collect, organize, and assess relevant data, avoid bias and mind-sets, identify and evaluate assumptions, and generate and evaluate appropriate hypotheses. Skills in critical thinking also provide a broader outlook to the situation and aid in the generation of creative solutions that establish a path toward favorable outcomes (Simpson & Courtney, 2002).

Current UoF Training Trends

In the early 1990's, Firearms Training Systems, Inc. introduced virtual reality training to the law enforcement community with a system called "FATS" that integrated video, digitized projected imagery, and laser-emitting firearms (FATS, 1999). Today, technology companies like Raytheon and Motion Reality, Inc. have partnered together to produce three-dimensional, fully immersive, portable training and mission-rehearsal systems that utilize real-time motion capture and virtual simulation technologies to meet the growing demand for realistic training within the law enforcement community. The use of virtual reality as an instructional innovation exemplifies the value of interacting in an environment that simulates the real-world condition in an effort to maximize learning transfer and narrow the gap between near and far contexts.

While virtual reality systems and simulation technology provide users with unique training experiences, these systems and technologies are often very costly, causing smaller and less funded law enforcement organizations to embrace other instructional technologies,

innovations, and/or strategies to meet their training needs. First person point of view (1st PPOV)

video has emerged as a low-cost alternative to virtual reality training. The use of video for

training purposes has been around since the advent of video recording. What is innovative about

1st PPOV video learning is that vignettes used for training show a first-person-point-of-view

perspective that allows the learner to "see what they would see if they were actually doing the

action themselves" (Lynch, Barr, & Oprescu, 2012, p. 398). This strategy, combined with the

use of simulation equipment in the form of life-like and/or virtual mannequins, provides the

student with opportunities to learn through multiple modes while demonstrating abilities in

cognitive, affective, and psychomotor domains (Farra, Miller, & Hodgson, 2013).

Creating realism requires the student to be immersed in real-world atmospherics. These

are the sights; sounds, smells, and general feel typical of the real-world condition. What is

innovative about atmospherics is the realism in set designs that agencies and organizations are

investing in to better prepare their workforces. The Federal Bureau of Investigation, for

example, opened a 10-acre tactical training facility in 1987 for the purpose of training FBI

personnel in a realistic urban environment. This facility, referred to as "Hogan's Alley", was

designed and constructed as a small town with shops, a bank, and fully furnished hotel (FBI,

2011). To further exemplify the value of atmospherics, it was revealed to the American public in

a book entitled, "No Easy Day" by Matt Bissonnette, aka. Mark Owen (2012), that members of

Seal Team Six trained in a replicate compound occupied by Osama Bin Laden's Pakistan prior to

the May 2, 2011 raid. In recognition of the importance of atmospherics in learning, the District

of Columbia Police Department unveiled a multi-million-dollar training facility in 2013 called

"Tactical Village" to better prepare officers and recruits for the demands of the police profession

(Hermann, 2013).

Although atmospherics are important to the overall learning experience, the impact of atmospherics is often dependent on the strength of the role playing involved. Several governmental law enforcement agencies and the U.S. military are well entrenched in its application. For example, the FBI contracts with a company to provide professional role-play services for their practical application exercises (FBI, 2011). The U.S. military contracts with companies like Raytheon to receive "Full Spectrum Operations". Programs like these offer fully immersive environments that simulate specific theatres of operation. Atmospherics are constructed to simulate real-conditions, but more importantly, the civilian populations are comprised of professional role-players that speak the native language and reflect cultural norms prevalent within the specific theatre of operation while they perform their roles as allies, insurgents, and/or criminal elements.

Tremendous efforts have been made to enhance the quality of training for law enforcement officers. Advances in adult learning science and technology have created avenues for deep and transformative learning. Instructional innovations in virtual reality, simulation, first person point-of-view video, atmospherics, and formal role-playing provide dynamic strategies for law enforcement trainers to deliver content to learners in ways that engage them in a learning process that stretches their imagination and invites them to reflect on their personal assumptions, strengths, and areas of weakness (Fenwich, 2004). Technology is moving toward synthesizing these different instructional innovations into a new holistic training experience that creates "webs of action" for students, instructors, and organizations that utilize them (p.47).

Summary

This review of the literature discussed internal and external factors affecting police use-of-force and reported the widely accepted legal parameters associated with deadly and non-

deadly use of force by police. This section also included a discussion related the various models that guide use-of-force decision-making, as well as, defined and described the competencies that make-up cognitive readiness. Lastly, current training trends for developing and/or enhancing use-of-force decision-making were explored.

Chapter III provides the methodology for obtaining data for this study. The sampling strategies, methods design, data collection process, coding and data analysis, data handling procedures, limitations, and issues related to trustworthiness, the role of the researcher, and ethical considerations are reported.

CHAPTER III

METHODS AND PROCEDURES

This study was designed to explore UoF instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience and psychological conditioning influence those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies with current UoF training strategies to both conceptualize and operationalized cognitive readiness within the law enforcement training community.

To guide this study, the following research questions were developed:

RQ_1: What are UoF instructors' perceptions of officers' preparation for violent police-public encounters?

RQ_2: How does experience influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ_3: How does psychological conditioning (control of fear, anxiety, anger, etc.) influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ_4: What competencies of cognitive readiness are deemed essential for preparation and response to violent encounters?

RQ_5: How do the responses to Questions 1-4 influence current UoF training strategies?

This chapter describes the methods and procedures for completing the research. The first section describes the research design. The next section describes the sampling strategies to be used to identify, recruit, and select qualified individuals to serve as interview and survey participants. This section is followed by a description of the data collection process. The fourth

section describes the data analysis method as well as the data handling procedures used in this study. This section is followed by explanations of trustworthiness, the role of the researcher, and ethical considerations. The final section provides a summary of the chapter.

Research Design

The methodology used for this study was a concurrent transformative mixed-methods design. This design entailed the concurrent collection of both qualitative and quantitative data guided by the researcher's theoretical framework (Creswell, 2014), a separate analysis of both sets of data (Creswell, 2014), and the triangulation of data to determine convergence validity (Creswell, 2014; McFee, 1992). According to Johnson, Onwuegbuzie, and Turner (2007), mixed-methods research is recognized among qualitative and quantitative research as a major research paradigm. Creswell (2014) highlights the core characteristics of mixed-methods research as the collection and connection of both qualitative and quantitative data to provide a more complete understanding of the research questions.

The qualitative approach taken in this study was based on the social constructivism paradigm. The ontological belief is that multiple realities of a phenomenon are developed through the social interactions of others (Kartoshkina & Hunter, 2014). According to Hays and Singh (2012), "cultural, historical, political events and processes influence these interactions" (p. 41), however the foci of inquiry is to understand how participants conceptualize a phenomenon in efforts to provide new interpretations concerning the realities presented (Kartoshkina & Hunter, 2014).

The tradition is steeped in cognitive task analysis (CTA) methods. CTA is a set of methods used to identify and explain the mental processes involved in performing a task within its natural environment (Klein & Militello, 2001; O'Hare, Wiggins, Williams, & Wong, 1998).

CTA methods were specifically developed to work with experts in recognition that what they know, think, and do differentiates them from their novice counterparts (Kartoshkina & Hunter, 2014, p. 52). By seeking to understand what UoF experts know about cognitive preparation for critical encounters, by exploring how they think, organize, and structure cue information, and by examining how their thinking influences decision-making, we may get a better sense for how expert police UoF instructors develop the competencies of cognitive readiness for critical encounters both in themselves and their students. This knowledge will provide greater insight as to why UoF instructors focus on specific competencies in light of others identified as important to the overall construct of cognitive readiness.

CTA methods vary in number and variety due to the evolution of its practice (Clark, Feldon, van Merrienboer, Yates, & Early, 2008). This study used a knowledge audit approach to cognitive task analysis. This approach involved a thorough investigation, examination, and analysis of knowledge creation and capture, storage and access, use and dissemination, and the sharing and disposal of knowledge (Sharma & Chowdhury, 2007). Knowledge audits probe expertise in areas of diagnosing and predicting, situational awareness, perceptual skills, development and knowledge of when to apply tricks of the trade, the ability to recognize anomalies, and compensation for equipment limitations (Militello & Hutton, 1998). Cooke (1994) identifies three broad families of techniques to aid the CTA approach taken in this study. These techniques included: observation and interviews; process tracing; and conceptual techniques. Observations and interviews involve watching experts and talking with them. Process tracing captures an expert's performance of a specific task via either a think-aloud protocol or subsequent recall. Conceptual techniques produce structured, interrelated representations of relevant concepts within a domain (Cooke, 1994).

The qualitative component of this study involved identifying and recruiting UoF training experts for individual and group interviews to unlock the hidden cognitive processes used in responding to a non-deadly violent police-public encounter and discuss aspects of cognitive readiness related to preparing police officers for these types of encounters. The quantitative component involved the distribution of a survey to a broad population of specialized instructors. Each component is fully articulated in the Data Collection section of this chapter. The data collected from each component was used to triangulate and illustrate convergence to expose aspects of cognitive preparation and performance to meet the goals of this study.

Population

Participants for this study consisted of Specialized Subject Control and Arrest Techniques instructors and Specialized Firearms instructors certified through the North Carolina Justice Academy. These individuals had significant experience in applying UoF techniques and teaching UoF topics to police populations. Two sampling strategies are outlined in the sections below. The first strategy identifies a broad population of specialized instructors from across the State of North Carolina for survey distribution. The second strategy uses inclusion criteria that draws from the population of specialized instructors and defines them as *subject-matter experts* in UoF training.

The U.S. District Court for the Southern District of Texas has defined subject-matter experts as,

> [P]ersons with direct knowledge of what is done in the job, what knowledge, skills, abilities and other characteristics (KSAOs) are required, and the general background of persons who are able to do the job successfully. These may include those currently doing the job, recent incumbents, those who supervise others doing the job, and other acknowledged job experts (*Rose v. Shinseki*, 2009 U.S. Dist. LEXIS 89656, S.D. Tex. Sept. 29, 2009).

Although all the participants in this study are likely to be considered experts in their

respective specializations, those participants that met the inclusion criteria for the process

tracing and structured group interview phases of this study would more likely be held as

subject-matter experts in police use-of-force training.

Sampling Strategy – Survey Population

North Carolina is situated in the eastern part of the United States. The State's population

exceeds 10 million residents (U.S. Census Bureau, 2017). According to the U.S. Bureau of

Justice Statistics (2011), there are 25 State agencies, 102 county agencies, 326 municipal

agencies, 53 college and university public safety entities, and 35 other public safety agencies

employing more than 23,442 sworn officers/deputies/agents providing law enforcement services

throughout the State of North Carolina. The North Carolina Sheriffs' Education and Training

Standards Commission and the North Carolina Criminal Justice Education and Training

Standards Commission regulate the training for all sworn officers/deputies/agents in the State.

These regulating bodies mandate training on topics that focus on the application of force and

Specialized Subject Control and Arrest Techniques instructors and Specialized Firearms

instructors provide much of the training focused in this area.

A purposeful sampling strategy was used to identify, recruit, and select participants for

survey distribution. Purposeful sampling is widely used in qualitative research to effectively

identify and select appropriate cases with limited resources (Patton, 2002). This method

involves identifying, recruiting, and selecting individuals or groups of individuals that are

especially knowledgeable about or experienced with a phenomenon of interest (Creswell &

Plano Clark, 2011). The population for this phase of the study included specialized instructors in

areas of Subject Control and Arrest Techniques and/or Specialized Firearms throughout the State

of North Carolina. The North Carolina Justice Academy (NCJA) provides the training that

certifies officers to teach in these areas. These programs require nomination by an agency

Training Director, the passing of a pre-qualification test, successful completion of a rigorous 80-

hour course, and the passing of a written State examination for certification to teach the subject-

matter contained within these blocks of instruction. NCJA currently maintains records on 547

Specialized Subject Control and Arrest Techniques instructors and 1539 Specialized Firearms

instructors across the State. Some instructors hold dual certifications. In total, 1775 specialized

instructors were identified. A list of these instructors and their respective emails addresses were

obtained from the NCJA for survey distribution.

Sampling Strategy – Interview Sample

A purposeful sampling strategy was again used to identify, recruit, and select participants

for this portion of the study. Specifically, the researcher used a criterion sampling technique to

identify, recruit, and select participants from among the larger group of specialized instructors.

This technique allowed for sample selection based on predetermined criteria (Hays & Singh,

2012). The inclusion and exclusion criterion identified for this study were based on "criterion-i"

and "theory-based" criterion sampling strategies.

Criterion-i strategy. The criterion-i strategy seeks to identify and select participants that

meet some predetermined criterion of importance (Palinkas et al., 2013). This strategy was used

to identify qualified participants from standardized questionnaires for in-depth follow-up (Patton,

2002). Five nationally accredited police departments in North Carolina known by the researcher

to possess multifunctional training divisions/units were solicited by the researcher to gain access

to their instructor cadre. The agency head for each organization was contacted by the researcher

and relevant information concerning the purpose of the study and confidentiality protections was provided. Once authorization was granted by the agency head, the researcher was put into contact with one of the agency's lead training officers/supervisors. This contact person was then asked to identify three specialized instructors from the agency that met the following inclusion criterion:

1. A minimum of 8 years' experience as a sworn police officer.

2. Must serve in a training capacity within a nationally accredited law enforcement agency.

3. Possess a minimum of two years' experience as a Subject Control and Arrest Techniques instructor and/or Specialized Firearms instructor.

4. Teach UoF related topics annually to in-service and/or pre-service police populations (these topics may include: subject, control, and arrest techniques, firearms, legal requirements in the application of force, escalation/de-escalation training, scenario-based use-of-force training, and/or patrol techniques).

5. Been involved in at least three or more incidents as the principle officer in the application of deadly or non-deadly force.

6. Comfort with self-disclosure [Gibbs et al. (2007)].

Theory-based strategy. A theory-based strategy was used in conjunction with the criterion-i strategy to add support for the overall sampling strategy used in this phase of the study. A theory-based strategy is used to explore the "dimensional range or varied conditions along which the properties of concepts vary" (Palinkas et al., 2013, p. 536). By the nature of their training and experiences as police officers, combined with their involvement in UoF situations and experience in training others in UoF related topics, the instructors meeting the

inclusion criteria for the interview phase of this study tend to possess a more holistic understanding of police use-of-force compared to those absent such training and experience. Therefore, these instructors were considered to possess more dimensional range to examine and speak about the concept of cognitive readiness in the context of violent police-public encounters then those police officers absent such training and experience.

Five groups of three UoF training experts meeting the inclusion criteria previously described comprised the sample population for this phase of the study. All fifteen experts were asked to participate in both group and individual interviews. Each participant was given the consent form found in Appendix A and a signed acknowledgement was obtained prior to engaging in any questioning. The sample size of 15 participants was selected "to gain a depth of understanding about a topic area, rather than the breadth" (Hays & Singh, 2012, p. 173). Creswell (2006) and Morse (1995) provide general guidelines for qualitative sample sizes according to the research tradition identified. Cognitive task analysis was not listed among them; however, Creswell suggests using a sample size of 10 participants for phenomenological studies and Morse encourages 20 to 30 participants for grounded theory studies. An important goal for this study was to find a point of saturation of the data (Morse, 1995) and 15 participants were able to meet this goal.

Data Collection Methods

An important part of the data collection process is to formulate procedures for capturing the necessary information to address the research questions presented (Hays & Singh, 2012). The following section describes the processes for data collection. Data was gathered from interviews with UoF training experts and responses to a survey instrument provided to a broader population of specialized instructors. The insights gained from process tracing, semi-structured

interviews, and survey responses informed perceptions about cognitive readiness in the context of violent police-public encounters to conceptualize and operationalize cognitive readiness within the law enforcement training community.

Pilot Testing – Qualitative Instruments

The process tracing protocol and questions found in Appendix B and the semi-structured group interview protocol and questions found in Appendix C were provided to three UoF training experts who were not included in the main study. The purpose of the pilot test was to evaluate the protocol and questions used to ensure the instruments consistently captured relevant and accurate information to answer the research questions and to inform reliability and validity concerns (Babbie, 2010). The results of the pilot test were shared with the Research Team. The Research Team evaluated the structure and consistency of each instrument and provided feedback regarding the alignment of the research questions and responses from the pilot interviews to inform modification for each instrument.

Once the process tracing and group interview instruments were revised, five groups of three UoF training experts were assembled to gather data for the qualitative component. The groups gathered at convenient locations on separate predetermined dates and times. Group participants individually completed the process tracing interview before gathering for the semi-structured group interview. The process tracing interviews and semi-structured group interview were conducted on the same day for each group.

Process Tracing Interview

The process tracing technique, employed as a function of cognitive task analysis, was used to capture cognitive insights in response to a potentially violent non-deadly encounter. This

technique involved each participant watching a short video of a potentially violent encounter from a first-person-point-of-view. The participants were instructed to verbally describe their thoughts, potential actions, and justifications as the situation unfolded via a think-aloud protocol. Each interview was conducted in a private setting on a predetermined date and time with each interview lasting approximately 30 minutes. All responses were recorded via a Phillips Voice Tracer recorder. Transcripts of the recordings were produced for coding purposes.

Semi-structured Group Interviews

Additional data were gathered using semi-structured interviews. Five groups of three UoF training experts were interviewed using a revised version of the group interview protocol and questions found in Appendix C. Semi-structured interviews were used to provide structure and consistency to the interview process and afford opportunity for the researcher to explore responses more in-depth (Hays & Singh, 2012). Each group interview was conducted in a private setting on a predetermined date and time. All responses were recorded via a Phillips Voice Tracer recorder and each interview lasted between 45-60 minutes. Transcripts of the recordings were produced for coding purposes.

Survey Instrument

To examine UoF performance-related experiences and explore perceptions about cognitive readiness and training for violent police-public encounters, a modified version of the Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire (see Appendix D) was distributed to all Specialized Subject Control and Arrest Techniques instructors and Specialized Firearms instructors identified through the NCJA. Potential respondents received an email with a link that

gave them access to the questionnaire. The survey was distributed to 1775 participants.

The minimum sample size needed, based on a 95% confidence level and 5% margin of

error was 316 returns. Any identifying information received from the respondents was

only known to the researcher. Respondents were provided access to the survey for an

eight-week period beginning May 17, 2018 and ending June 15, 2018.

Renden, Nieuwenhuys, Savelsbergh, and Oudejans (2015a) developed the Dutch Police

Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire

to examine how Dutch police officers perceive their preparation for arrest and self-defense skills

(ASDS) and their ability to manage violence on duty. The questionnaire assesses seven targeted

constructs related to ASDS preparation and skills. The following identifies each construct:

ASDS preparation; ASDS use; Overuse of legal force; Underuse of legal force; Problems with

skill execution; Performance effectiveness; and more frequent and more realistic training.

The researchers performed factor analysis to confirm the target constructs as separate

dimensions. The results yielded seven constructs with eigenvalues greater than 1.0, accounting

for 64.05% of the variance. All 25 items on the questionnaire showed Varimax rotation factor

loadings and item total-total correlations of .30 or more. The following Alpha coefficients were

observed for each construct: ASDS preparation, .81; ASDS use, .69; Overuse of legal force, .67;

Underuse of legal force, .60; Problems with skill execution, .70; Performance effectiveness, .70;

and more frequent and more realistic training, .87 (Renden, Nieuwenhuys, Savelsbergh, &

Oudejans, 2015b, p. 11). These reliability statistics indicate that the Dutch Police Officers' Self-

Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire can be

considered a reliable instrument given that Alpha coefficients 0.3 and higher are considered

acceptable for the behavioral sciences (Babbie, 2010).

Data Analysis

The researcher used a three-step analysis to answer the research questions presented. First, qualitative data were analyzed using NVivo coding software and an "a-priori thematic coding" process. The researcher concurrently analyzed the survey data using descriptive and inferential statistics. Finally, the findings and results from both the qualitative and quantitative data were analyzed together to draw final conclusions. Figure 3.1 graphically depicts how the data was analyzed. The following sub-sections details this process further.
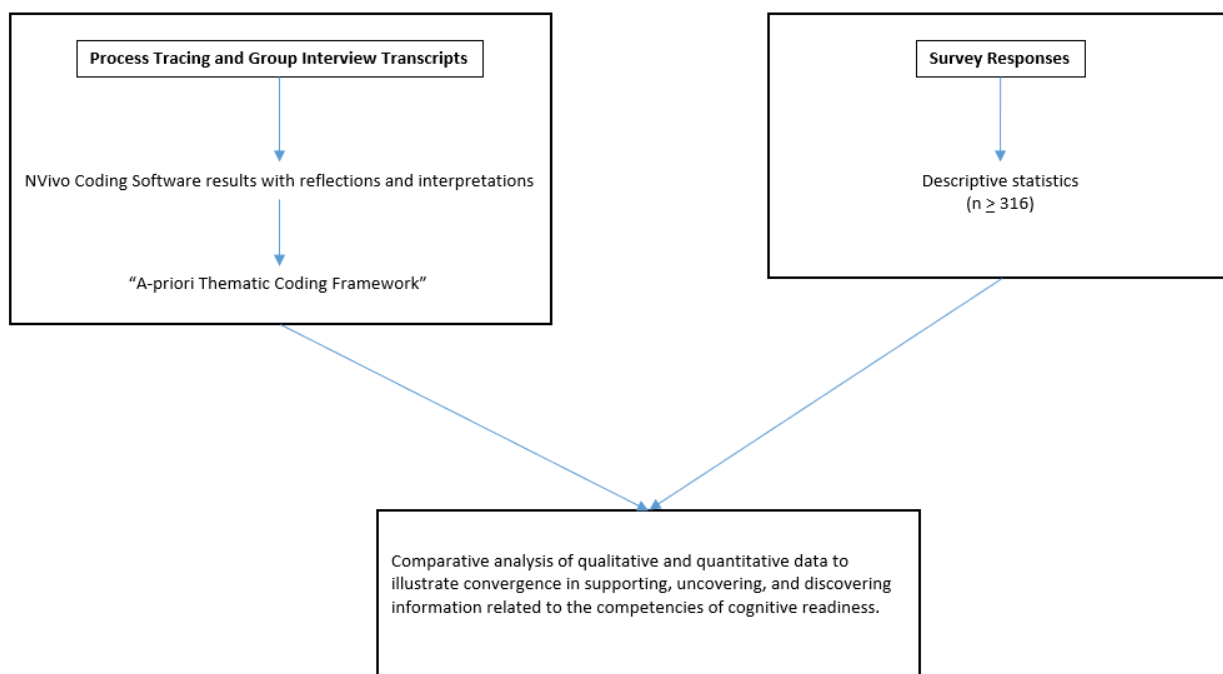
Figure 3.1 Data Analysis Process

Qualitative Analysis

It is foremost recognized that the value of using a qualitative approach is to uncover and discover information based on the lived experiences of the participants as subject-matter experts in police use-of-force. The insights gained from this approach exposed critical considerations

pre-during-post encounter, which aided in addressing the research questions. The facilitation of this goal required a process for coding the data collected. The coding process allowed for summarization, categorization, and synthesis of the data collected. An analysis of the data included a search for patterns and themes that emerged from the data (Hays & Singh, 2012). This sub-section discusses the data handling procedures and describes the coding and data analysis processes for the interview phase of this study.

The group and individual interviews were transcribed verbatim. Identifiable data were omitted from the transcripts to maintain confidentiality. The formatted output was presented to the participants for verification, refinement, and revision to ensure that their responses were complete and accurate. The researcher used NVivo software to assign codes and analyze the patterns and themes in the recorded responses of the participants. The NVivo coding software not only assisted the researcher in identifying themes in the data, but also identified the frequency with which a particular theme occurred in the responses of the participants. The central themes that emerged were coded against a list of deductive and inductive codes (discussed later in this section).

The interpretation and comparative analysis of the central themes provided explanatory descriptions related to the research questions presented. A draft summary of the patterns and themes that emerged from the data were reviewed by the research team. The research team was comprised of three individuals with experience in research methods and law enforcement practices. This team served as "peer debriefers" to provide insight and add accountability and credibility to the study (Hays & Singh, 2012).

The NVivo findings were analyzed against an "a-priori thematic coding framework" to further summarize, categorize, and/or synthesize the data collected. A "deductive" a-priori approach allows for specific themes to be examined in targeted populations using pre-specified categories/codes that are derived from the literature and the field (Pope, Ziebland, & Mays, 2000). During the coding process, "inductive" codes emerged and were added to the coding framework. The initial codes were grouped into analytical themes and code categories that made-up the working analytical framework or blueprint for this study (Fereday & Muir-Cochrane, 2006). Table 3.1 depicts the analytical themes and the appropriate code categories of known competencies comprising the composite construct of cognitive readiness based on a review of the literature. Twenty-three code categories were derived from the literature. In the context of this study, these code categories allowed the researcher to focus on the phenomenon while maintaining a systematic and transparent process for coding and triangulating the data (Gale, et al., 2013).

Table 3.1.

A-priori thematic Coding Framework

Analytical Theme	Code Category	Rankings: Survey	Frequency Identified: Interviews
Knowledge	Prerequisite knowledge		
	Procedural knowledge		
Skills	Situation Awareness		
	Problem-Solving		
	Adaptability		
	Decision-making		
	Automaticity		
	Pattern recognition		
	Interpersonal skills		
	Communication		
	Memory		
Attitudes	Emotion		

	Confidence		
	Desire		
	Motivation		
Attributes	Adaptive expertise		
	Critical thinking		
	Resilience		
	Metacognition		
	Teamwork		
	Transfer		
	Creativity		
	Leadership		

An analysis of the qualitative data focused on the words, actions, and/or behaviors of the interview participants. Attention was given to the frequency with which the various competencies of cognitive readiness were identified in the group interviews. This data was compared against the competency rankings resulting from the survey respondents. According to Gay, Mills, and Airasian (2012), "frequency refers to the number of times something occurs" (p. 322). Rankings, however, focus on comparisons between different objects as a measure of order (Alvo & Philip, 2014). Attention to frequency and rankings provided insight into the importance, preference, relevancy, and necessity of the various themes expressed by the interview participants.

Quantitative Analysis

Survey data were gathered to allow for broader perspectives. The researcher inputted a modified version of the Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire into Qualtrics, an internet-based survey software platform, to examine UoF performance-related experiences and explore perceptions about cognitive readiness and training for violent police-public encounters among a larger population of

specialized instructors. Results from the survey were entered and analyzed using the Statistical

Package for the Social Sciences (SPSS) version 23 (IBM, 2015). Descriptive statistics, such as

mean, median, mode, and standard deviation were used to analyze the survey data.

Data Collection and Analysis Alignment

Qualitative findings and quantitative results were compared together to aid in supporting,

uncovering, and discovering information related to the study's research questions. Specifically,

results from the survey were compared against the findings from the process tracing interviews

and semi-structured group interviews to serve as a function of triangulation of the data.

Triangulation of data was used to determine whether there was convergence between the

qualitative findings and the quantitative results (Creswell, 2014; McFee, 1992). Table 3.2 aligns

the research questions to the corresponding data collection and analysis methods. This table

identifies the research questions, corresponding data collection instrument, type of analysis used

for each data source, and an indication of primary or secondary triangulation to support the

conclusions made. Relating the qualitative and quantitative outcomes allowed the researcher to

determine if convergence existed between the qualitative findings and quantitative results,

thereby, strengthening the conclusions made.

Table 3.2.

Research question alignment table

Research Question	Data Source	Collection Method	Instrument	Analysis Type	Triangulation Type
RQ$_1$: What are UoF instructors' perceptions of officers' preparation for violent police-public encounters?	Specialized instructors	Survey	Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire (S12, S16, S18, S20, S21, S22, S25, S26, S27)	• Descriptive statistics • Frequency	Primary
	UoF training experts	Semi-structured Group Interview	Semi-structured Group Interview Guide (SGI1, SGI6)	Theme analysis	Secondary
RQ$_2$: How does experience influence UoF instructors' perceptions about their preparation for violent police-public encounters?	Specialized instructors	Survey	Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire (S6, S23, S31, S32, S33, S35, S40, S41, S42, S43, S44)	• Descriptive statistics • Frequency	Primary
	UoF training experts	Process Tracing Interview	Process Tracing Instrument (PTI1, PTI4, PTI11, PTI12)	Theme analysis	Secondary
	UoF training experts	Semi-structured Group Interview	Semi-structured Group Interview Guide (SGI8)	Theme analysis	Secondary
RQ$_3$: How does psychological conditioning influence UoF instructors' perceptions about their preparation for violent police-public encounters?	Specialized instructors	Survey	Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire (S24, S45, S46, S48)	• Descriptive statistics • Frequency	Primary
	UoF training experts	Semi-structured Group Interview	Semi-structured Group Interview Guide (SGI7)	Theme analysis	Secondary

RQ4: What competencies of cognitive readiness are deemed the most essential for violent police-public encounters?	UoF training experts	Process Tracing Interview	Process Tracing Instrument (A-priori thematic coding framework)	Frequency and rating based on a-priori thematic coding framework	Primary
	UoF training experts	Semi-structured Group Interview	Semi-structured Group Interview Guide (SGI4)	Theme analysis	Secondary
	Specialized instructors	Survey	Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire (S11, S13, S14, S16, S17)	• Descriptive statistics • Frequency	Secondary
RQ5: How do the responses to Questions 1-4 influence current UoF training strategies?	UoF training experts	Semi-structured Group Interview	Semi-structured Group Interview Guide (SGI9, SGI11, SGI7, SGI8, SGI9, SGI10)	Theme analysis	Primary
	Specialized instructors	Survey	Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire (S15, S19, S28, S29, S47)	• Descriptive statistics • Frequency	Secondary
	UoF training experts	Process Tracing Interview	Process Tracing Instrument (A-priori thematic code framework)	Theme analysis	Secondary

Note. Table 3.2 was adapted from Stefaniak, J. E. (2013). *The use of cognitive apprenticeships to teach learner-centered instructional strategies in an undergraduate learning environment* (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses database. (UMI No. 3594720), p. 48-50.

Trustworthiness

This study relied on credibility, transferability, dependability, and confirmability as the criteria for establishing trustworthiness (Hays & Singh, 2012; Shenton, 2004). Credibility was demonstrated using reflective journaling to identify and address research bias, member checks to solicit feedback from participants on their transcripts, peer scrutiny, and triangulation. Transferability was demonstrated through application of the sampling strategy described in this study and the use of thick descriptions provided by the participants. Dependability was demonstrated using an interview process and recording of artifacts and context. Since no other researcher participated in this study and realizing that people and contexts are in a constant state of flux, a repeated study reaching the same conclusions is unlikely. However, the use of a research team of readers, prolonged engagement, triangulation of the data, and member checking assured the reliability of the data recording and analysis. Confirmability was demonstrated using triangulation, an audit trail, and bracketing of reflective commentary and/or assumptions (Hays & Singh, 2012).

Researcher's Role

As a police officer with nearly 25 years' experience and a police use-of-force expert, researcher reflectivity was an important aspect of this study. As an insider, the researcher's experience provided a lens for interpretation and explanation of the data collected (Hays & Singh, 2012). The researcher recognized that he possesses experiences that influence his core beliefs about the topic being researched. As such, the researcher's subjectivity may be viewed as a limitation. To aid in the reflective process, the researcher used a reflective journal to document his thoughts and feelings each time that he interacted with the data and/or participants.

Ethical Considerations

The confidentiality of all participants was of primary importance. As such, all safeguards and strategies utilized were in compliance with Old Dominion University's Institutional Review Board (IRB). The participants were informed of confidentiality, the limits of confidentiality, privacy, disclosures, consultations and use of confidential information. To maintain confidentiality, information that could identify the participants was not used in this study. Identifying information will not be included in potential lectures or in any written form without the participant's written consent.

The researcher discussed the planned use of the information gained through this study with all study participants. Each participant was assured that his or her privacy would be maintained by only using the information gained for the desired intent of this study. Every effort was made to protect written and electronic files by storing such items in locked filing cabinets. To protect anonymity, no identifiable participant names were entered on the transcribed documents. All written records will be disposed of by shedding or deleting files upon publication of the study.

<div align="center">

Summary

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The purpose of this multi-methods study was to explore UoF instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience influences those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies with common tasks performed by expert UoF instructors to be incorporated in current and future UoF training strategies. A social constructivism paradigm using cognitive task analysis methods with

qualitative and quantitative measures was employed in this study. The research design consisted of process tracing, semi-structured group interviews, and a survey. A purposeful sampling method was used to identify and select the study's participants. Inclusion criteria for group and individual interviews were based on "criterion-i" and "theory-based" strategies.

To analyze the data, the researcher used NVivo coding software to code into themes recorded conversations. The output was analyzed against an "a-priori thematic coding framework" to further summarize, categorize, and/or synthesize the data collected. The researcher inputted a modified version of the Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire into Qualtrics, an internet-based survey software platform, to probe how cognitive readiness for violent police-public encounters is generalized among a larger population of specialized instructors. Finally, the results from both the qualitative and quantitative data were analyzed together using parametric statistical tests to interpret the overall findings. Chapter IV reports both the qualitative findings and quantitative results. Comparative outcomes from an examination of both the qualitative findings and quantitative results are reported to answer the research questions.

CHAPTER IV

RESULTS

A concurrent transformative mixed-methods research design was used to explore use-of-force (UoF) instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience and psychological conditioning influence those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies with current UoF training strategies to both conceptualize and operationalize cognitive readiness within the law enforcement training community. This research design involved the concurrent collection of both qualitative and quantitative data guided by the researcher's theoretical framework and an analysis and triangulation of data to provide insight into answering the following research questions:

RQ_1: What are UoF instructors' perceptions of officers' preparation for violent police-public encounters?

RQ_2: How does experience influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ_3: How does psychological conditioning (control of fear, anxiety, anger, etc.) influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ_4: What competencies of cognitive readiness are deemed essential for preparation and response to violent encounters?

RQ_5: How do the responses to Questions 1-4 influence current and future UoF training strategies?

Sample Description

The population for the study included Specialized Subject Control and Arrest instructors and Specialized Firearms instructors for survey distribution. Specialized instructors that met specific inclusion criteria were purposefully selected as UoF training experts for qualitative data collection. Sample descriptions for both quantitative and qualitative data collection are provided in the following subsections.

Participants

A modified version of the Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire was distributed through Qualtrics, an internet-based survey platform, to 1775 specialized instructors in the State of North Carolina. While the original lists for Specialized Firearms instructors and Specialized Subject Control and Arrest instructors received from the NCJA totaled 2093, several reporting errors were found in the databases and some instructors hold dual certifications as both a Specialized Firearms instructor and Specialized Subject Control and Arrest instructor resulting in the lower distribution total.

A link to the survey was sent to all 1775 identified instructors via an introductory email, delivered through the Qualtrics survey platform, that briefly described the purpose of the study and confidentiality protections. The survey was open to potential participants from May 17, 2018 – June 15, 2018. Seven email reminders were sent to potential participants throughout the accessible period. By proceeding with the survey, respondents acknowledged that they were a sworn police officer in the State of North Carolina, that they were currently certified as a Specialized Firearms instructor and/or Specialized Subject Control and Arrest Techniques instructor, and that they consented to the use of their responses for the purposes of this study.

Of the 1775 potential participants, 317 respondents completed the survey in its entirety. Table 4.1 provides a composition of the survey sample. Most of the respondents were Specialized Firearms instructors (64.1%) with over 10 years' experience as a specialized instructor (47.8%) in urban areas with over 50 sworn police officers (43.8%).

Table 4.1

Composition of the Survey Sample (n = 317)

Variable	Category	Frequency	% of n
Specialized Instructor	SFI only	205	64.1
	SCAT only	67	20.9
	Both	45	14.1
Experience as a Specialized Instructor	< 3	46	14.4
	3-6	56	17.5
	7-10	62	19.4
	> 10	153	47.8
Typology of Department	Rural, < 50	31	9.7
	Rural, > 50	69	21.6
	Small Town, < 50	43	13.4
	Small Town, > 50	22	6.9
	Urban, < 50	12	3.8
	Urban, > 50	140	43.8

Interview Sample

Five nationally accredited police departments in North Carolina known by the researcher to possess multifunctional training divisions/units were solicited by the researcher to gain access to their instructor cadre. The agency head for each organization was contacted by the researcher and relevant information concerning the purpose of the study and confidentiality protections were provided. Once authorization was granted by the agency head, the researcher was put into contact with one of the agency's lead training officers/supervisors. This contact person was then asked to identify three specialized instructors from the agency that met the following inclusion criterion:

1. A minimum of 8 years' experience as a sworn police officer.

2. Must serve in a training capacity within a nationally accredited law enforcement agency.

3. Possess a minimum of 2 years' experience as a Subject Control and Arrest Techniques instructor and/or Specialized Firearms instructor.

4. Teach UoF related topics annually to in-service and/or pre-service police populations (these topics may include: subject, control, and arrest techniques, firearms, legal requirements in the application of force, escalation/de-escalation training, scenario-based use-of-force training, and/or patrol techniques).

5. Been involved in at least 3 or more incidents as the principle officer in the application of deadly or non-deadly force.

6. Comfort with self-disclosure and an indication of interest in participating in group and individual interviews.

Once agency participants were identified, a confirmation letter (see Appendix F) and information concerning the purpose of the study and confidentiality protections were emailed to each participant. A reminder email was sent the day before each scheduled meeting. Face-to-face interviews were conducted throughout the months of May and June 2018 with the three specialized instructors selected from each department that met the inclusion criterion previously presented. In total, 15 individual process tracing interviews and five semi-structured interviews were conducted representing five police departments in North Carolina. Table 4.2 provides an overview of the size of the employing department, participants' average years' experience as a law enforcement officer, and participants' average years' experience as a specialized instructor.

Table 4.2

Demographic Information about the Interview Sample per Department

Department	*Department Size (# Allocated Sworn)	Average # Years of LEO Experience	Average # Years as a Specialized Instructor
D1	490	20	13
D2	185	24	11
D3	109	16.7	6.3
D4	442	22.3	8.7
D5	1600	16.3	8

*SOURCE: Governing calculations of employment and population data from 2016 FBI Uniform Crime Reporting program

Results and Findings Relating to the Research Questions

The following subsections provide results and findings related to each of the research questions. Tables are presented to illustrate the results of the survey data, while specific quotes are used to highlight central themes that emerged from the qualitative data. Data were analyzed and reported together to illustrate convergence in supporting, uncovering, and discovering information related to the research question.

RQ1: What are UoF instructors' perceptions of officers' preparation for violent police-public encounters?

Nine items on the survey were related to the first research question. Table 4.3 provides a composition of the survey responses.

Table 4.3

Composition of the Survey Responses for RQ1 (n = 317)

Question	Category	Frequency	% of n
SQ 12. In general, the training that officers receive in use-of-force related topics adequately prepares them for violent police-public encounters?	Extremely inadequate	47	14.7
	Moderately inadequate	75	23.4
	Slightly inadequate	32	10.0
	Slightly adequate	91	28.4
	Moderately adequate	64	20.0

	Extremely adequate	8	2.5
SQ16. On an annual basis, how much training (in terms of hours) is needed to maintain an adequate state of cognitive readiness for violent police-public encounters?	< 4 hrs. 5-8 8-16 16-24 24-40 > 40 hrs.	4 23 62 59 78 91	1.3 7.2 19.4 18.4 24.4 28.4
SQ18. In general, how prepared are police officers in the State of North Carolina for violent police-public encounters?	Extremely unprepared Slightly unprepared Slightly prepared Extremely prepared	60 77 173 7	18.8 24.1 54.1 2.2
SQ20. Is practical application training in police use-of-force an annual requirement for all officers in your Department?	Yes No I don't know	211 104 2	65.9 32.5 .6
SQ21. On average, officers employed with my agency receive _____ hours in practical use-of-force training annually?	< 4 hrs. 5-8 8-16 16-24 24-40 > 40	97 108 72 23 11 6	30.3 33.8 22.5 7.2 3.4 1.9
SQ22. On average, I believe officers should receive _____ hours of practical use-of-force training annually?	1-4 4-8 8-16 16-24 24-40	13 30 69 67 138	4.1 9.4 21.6 20.9 43.1
SQ25. I am satisfied with the current range of skills taught to protect officers against harm during violent encounters.	Strongly disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Strongly Agree	47 86 90 13 65 14 2	14.7 26.9 28.1 4.1 20.3 4.4 .6
SQ26. The skills taught in subject control and arrest techniques are useful for violent situations.	Strongly disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Strongly Agree	22 36 51 16 119 61 12	6.9 11.3 15.9 5.0 37.2 19.1 3.8
SQ27. The skills taught in subject control and arrest techniques are easy to apply in violent situations.	Strongly disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Strongly Agree	23 46 76 27 112 31 2	7.2 14.4 23.8 8.4 35.0 9.7 .6

The results in Table 4.3 demonstrate a general belief that the training police officers receive in UoF related topics less than adequately prepares them for violent police-public encounters (76.5%). A more specific generalization exists with officers in North Carolina. More than half the respondents (54.1%) believe that officers are only "slightly prepared" for such encounters with another 42.9% believing that officers are "slightly unprepared" to "extremely unprepared" for violent encounters.

While 65.9% of respondents indicated that practical application training in police use-of-force was an annual requirement in their department, 64.1% of respondents reported receiving less than 8 hours of practical UoF training annually. Yet, 43.1% of respondents believe that officers should receive 24-40 hours of annual UoF training and 71.2% of respondents believe that it takes 16+ hours of annual training to maintain an adequate state of cognitive readiness for violent police-public encounters. The survey data reveals that many respondents are dissatisfied with the range of skills taught to protect officers against harm during violent encounters (69.7%), yet respondents reported disparities between how "useful" the current tactics taught are and how "easy" the techniques are to apply in the critical moments of an encounter. While 60.1% of respondents "somewhat agree" to "strongly agree" that the skills taught in subject control and arrest techniques training are useful for violent situations, respondents are split nearly 50/50 on how easy the skills are to apply in violent situations.

The researcher asked two questions to UoF training experts in the semi-structured group interviews to gain a deeper understanding about RQ1 (see Appendix C, Group Interview Instrument, questions 1 and 6). The first question asked, "How would you describe your department's use-of-force training program in terms of effectiveness? The second question asked, "Do you believe the officers you train are generally prepared for violent encounters?

Why?" These questions were asked to have interview participants describe and evaluate their respective UoF training programs in terms of effectiveness while exploring general beliefs about how prepared their departmental officers are for violent encounters.

Generally, UoF training experts feel that their UoF training programs are effective, in terms of scope, sequence, and pedagogy, but participants expressed concern about obstacles that tend to diminish the overall effectiveness of their programs. Time, resources, repetition, motivation/interest, and liability were themes that emerged as obstacles to overcome. The following comments illustrate these concerns.

Time, resources, and repetition. In terms of time, resources, and repetition, participants expressed the following:

- *"Yeah it's a lack of training time, the understaffing. And then we have issues where we'll amp the training up – we do scenario-based training, realistic training - and then the first officer that gets injured – you're done."* (D2P2)

- *"Look at force-on-force - we've got Simunitions ™ here – a limited amount of equipment. You know we need to fix some of our helmets, the ammo is expensive. So, I think to put a department the size of ours through very effective force-on-force training it takes overtime, money, and we'd have to up our budget quite a bit to do that type of training."* (D3P2)

- *"I think it's effective on informing the officers and bringing them in on what needs to be done. The information we're putting out – it's the right information. We have went through various channels to get the right information, so I know in that aspect of it we're up there. But as for, you know, actually the officers responding to it – it's great but you know how in-service goes. If officers only get training one time a year, it's not going to be quite as effective … it's not gonna be as effective as it would be if they received training maybe once a month."* (D5P1)

- *"So, the quality's there you just don't have the time to keep that quality going because it might be 365 days later when they get the next round."* (D2P3)

- *"I feel like the officers – whether it's SCAT training or firearms training – they don't get nearly enough repetitions."* (D2P1)

Motivation/interest and liability. In terms of motivation/interest in training,

participants expressed the following:

- *"[o]f 20 students in a class, there's 5 that are engaged, there's 5 that are interested, and there's 10 that don't wanna be there. So, there's that uphill battle as well."* (D2P2)

- *"You can have very good training but the people that stand in the back and don't ask questions, don't engage, don't take extra repetitions, don't put forth the effort during their scenario - we're missing the boat on them."* (D2P2)

This general lack of interest was also discussed about the ranking members of the

organization. D3P2 expressed, "[e]verybody needs to know what we're doing…the people in

charge need to know what we're planning on doing". While, D4P2 mentioned that his/her

department's overall training program was effective, he/she stated that one of their biggest

obstacles to effective training comes with "higher ranking" officers that are "too busy with other

things" to fully engage in the activities offered.

In terms of liability participants expressed the following:

- *"[o]ur department is not training our officers in how the training has evolved. The Justice Academy is requiring cadets to have the most current training; however, we're neglecting officers once they have come out of that BLET – so an officer that's been out for 20 years has not had nothing."* (D1P3)

- *"It's ridiculous that we're not required to recert with defensive tactics. This is the stuff that the public expects of us."* (D1P1)

The themes that emerged from the semi-structured group interviews were compared

against the survey results relative to RQ1 to support, uncover, and discover information, and

triangulate the data to answer the research question. From an analysis of the results and findings,

it is apparent that UoF instructors generally believe that officers are less than adequately prepared for violent encounters. Interestingly, UoF training experts employed in departments with multifunction training divisions/units, generally believe that their UoF training programs are effective, however, obstacles prevent adequate transfer of appropriate knowledge, skills, attitudes, and attributes, thus minimizing the effects of any UoF training received. The realities expressed converge with the survey respondents giving support to the generalization that officers are not as prepared as they otherwise could be if these obstacles were minimized or removed.

RQ2: How does experience influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

Eleven items on the survey were related to the second research question. The first item provides data relative to the years of police experience of the respondents. The sample reported a range of experience between 4 to 46 years ($M = 20.77$, $SD = 7.57$). Table 4.4 provides a composition for the remaining 11 survey responses relative to RQ2.

Table 4.4

Composition of the Survey Responses for RQ2 (n = 317)

Question	Category	Frequency	% of n
SQ6. How many incidents of documented use-of-force have you been involved as the principle officer over the course of your career?	< 3 4-6 7-10 > 10	58 60 60 139	18.1 18.8 18.8 43.4
SQ23. How often have you experienced violence in your career targeted directly at you?	Never Sometimes Regularly Often Very Often	14 249 27 18 19	4.4 77.8 8.4 5.6 2.8
SQ31. During non-deadly violent situations, I am able to apply suitable techniques to stop the threat.	Strongly disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Strongly Agree	1 1 6 13 65 177 54	.3 .3 1.9 4.1 20.3 55.3 16.9

SQ32. During violent situations, my skill execution is different than how I learned in subject control and arrest techniques training.	Strongly disagree	1	.3
	Disagree	11	3.4
	Somewhat disagree	16	5.0
	Neutral	25	7.8
	Somewhat agree	93	29.1
	Agree	120	37.5
	Strongly Agree	51	15.9
SQ33. During non-deadly violent situations, I apply different skills then those taught in subject control and arrest techniques training.	Strongly disagree	1	.3
	Disagree	23	7.2
	Somewhat disagree	19	5.9
	Neutral	36	11.3
	Somewhat agree	109	34.1
	Agree	86	26.9
	Strongly Agree	43	13.4
SQ35. During violent situations, I am able to perform effectively without applying skills learned in subject control and arrest techniques training.	Strongly disagree	5	1.6
	Disagree	29	9.1
	Somewhat disagree	52	16.3
	Neutral	77	24.1
	Somewhat agree	84	26.3
	Agree	54	16.9
	Strongly Agree	16	5.0
SQ40. After a violent situation, I have the feeling that I applied the wrong skills.	Strongly disagree	40	12.5
	Disagree	152	47.5
	Somewhat disagree	43	13.4
	Neutral	55	17.2
	Somewhat agree	22	6.9
	Agree	5	1.6
	Strongly Agree	0	0.0
SQ41. After a violent situation, I have the feeling that I should have executed skills better.	Strongly disagree	14	4.4
	Disagree	51	15.9
	Somewhat disagree	29	9.1
	Neutral	58	18.1
	Somewhat agree	110	34.4
	Agree	53	16.6
	Strongly Agree	2	.6
SQ42. During violent situations, I am able to perform effectively.	Strongly disagree	0	0.0
	Disagree	0	0.0
	Somewhat disagree	3	.9
	Neutral	16	5.0
	Somewhat agree	53	16.6
	Agree	196	61.3
	Strongly Agree	49	15.3
SQ43. During violent situations, I know what I am doing.	Strongly disagree	0	0.0
	Disagree	0	0.0
	Somewhat disagree	3	.9
	Neutral	13	4.1
	Somewhat agree	54	16.9
	Agree	192	60.0
	Strongly Agree	55	17.2
SQ44. During violent situations, I experience problems.	Strongly disagree	15	4.7
	Disagree	111	34.7
	Somewhat disagree	51	15.9
	Neutral	67	20.9
	Somewhat agree	51	15.9

Agree	22	6.9
Strongly Agree	0.0	0.0

As shown in Table 4.4, respondents reported that they experience violence directed toward them at least "sometimes" (94.6%) with 43.4% reporting more than 10 documented uses-of-force throughout their career. During violent situations, 77.2% of respondents "agree" to "strongly agree" that they know what they are doing in a violent encounter and perform effectively (76.6%) utilizing suitable techniques to stop the threat (72.2%). However, many respondents "somewhat agree" to "strongly agree" that they apply different skills (74.4%) or execute skills differently (82.5%) than how they learned them in subject control and arrest techniques training when engaged in a violent encounter. Many respondents feel they applied the appropriate skills following a violent encounter (73.4%), but slightly more than half the respondents (55.3%) indicate that they experienced problems during a violent encounter and 51.6% "somewhat agree" to "strongly agree" that they could have executed the skills used more proficiently.

The researcher analyzed four aspects of the process tracing component of the study to gain a deeper understanding of RQ2. The first component examined the experience level of the UoF training expert participants. The second component examined the practical experience of each participant based on the self-admitted number of documented applications of force from which they were the principle officer. The third and fourth components metacognitively probed each participant's assessment of their abilities to manage a potentially violent encounter and their own cognitive readiness for violent police-public encounters. These questions were asked to have participants reflect on how their experience as officers and UoF trainers influence the

confidence in their own abilities and overall cognitive readiness for violent encounters. Table

4.5 provides a composition of responses.

Table 4.5

Composition of responses from the process tracing component relative to RQ2(n = 15)

Interview participant	Yrs. of LEO experience	Estimated # of documented UoFs	Assessment of ability	Assessment of cognitive readiness
D1P1	22	20	3	3
D1P2	24	15	4	4
D1P3	14	10	4	4
D2P1	21	45	4	4
D2P2	25	20	3	4
D2P3	26	10	4	4
D3P1	28	12	4	4
D3P2	13	3	3	3
D3P3	10	8	3	4
D4P1	22	15	3	4
D4P2	15	4	3	3
D4P3	29	100	3	3
D5P1	10	13	3	4
D5P2	27	15	3	4
D5P3	12	14	4	3

Note. See Appendix B: Process Tracing Instrument, questions 11 and 12. Both questions were based on a 4-point Likert scale. Question 11 ranged from: 1 – extremely unconfident, 2 – slightly confident, 3 – fairly confident, 4 – extremely confident. Question 12 ranged from: 1 – extremely unprepared, 2 – slightly unprepared, slightly prepared, extremely prepared.

The results indicate an average rating of a 3.4 in the expert's confidence in their abilities

to properly manage a potentially violent situation without causing undo injury to themselves or

the suspect. A general theme emerged with respect to uncontrollable factors as the primary

rationale for not indicating extreme confidence. This theme was expressed in the following

comments:

- *"I feel like every time you go hands on with an individual who is non-compliant and physically resisting or even assaultive, you're going to get hurt in some way. It might be very minor but you're gonna get injured in some way and the suspect is gonna get injured in some way - whether, again, it's minor or it's more serious from impact with the ground or something else, but I do feel highly confident that I could prevail in an encounter like this."* (D1P1)

- *"I'd say fairly confident. The problem with UoF is the unpredictability of it."* (D2P2)

- *"I would go towards extremely but I'm not gonna say that because I know anytime you use force on somebody it's probably gonna cause some type of injury."* (D4P1)

- *"There's always somebody more trained. We tend to always have a better impression of ourselves than we should have, no matter who we are."* (D4P2)

- *"I am an instructor – I still train, I still try and work out but life catches up to you at this point too. I'm 50-years old still working the road, so with the injuries I've received I'm not what I used to be – age takes away from that too… I'm still very confident in my capabilities and knowing how to assess situations but I have lost some of my physical ability so, I would not say I'm extremely confident at this stage in my life."* (D5P2)

- *"No UoF is pretty, I mean the pure definition of UoF, somebody may get hurt – either the violator or the officer."* (D5P3)

Although uncontrollable factors seemed to lower participants confidence in their abilities

to properly manage a potentially violent encounter without causing undo injury to themselves or

the suspect, experience as both a practitioner and trainer emerged as a theme to support a higher

sense of confidence above their shared beliefs about the general preparedness of average officers.

This theme was expressed in the following comments.

- *"[t]he training and even more-so the experience of having dealt with this type of situation in the past helps greatly to reduce my reaction time to everything because I can pick up quickly on indicators when they present. Additionally, the experience of being able to train others within this field over the last 14/15 years has almost doubled the amount of experience that I have in combatives and aggressive behavior when dealing with individuals within police work."* (D1P2)

- *"[i]t's a mixture of different things – it comes with my training, it comes with my experience of dealing with people, it comes back from day one of putting myself in these scenarios that hopefully I'll never be in but thinking about how I would react."* (D2P3)

- *"I mean, I have a decent amount of experience. This is something I've trained in, specifically, I've trained other people in so, I feel like my skills are above average to the point where I have confidence in them.* (D3P3)

In terms of cognitive readiness, the results indicate an average rating of a 3.7

demonstrating a high self-assessment of cognitive preparation for violent police-public

encounters. Direct experience from being a UoF trainer emerged as the dominate theme as

demonstrated by the following responses:

- *"[i]f I were to compare my personal ability to deal with situations like this compared to observations that I've made in the real world from other police officers, I would classify myself as being extremely prepared compared to what I've seen from other police officers. I think there is other police officers out there that are far less prepared than I am and obviously I have a lot of years of experience and I'm an instructor in the subject matter and I feel like there's a lot of room for improvement out there at the baseline."* (D1P1)

- *"[i]t's based on training and experience but it's also, even more, based on the fact that I actively participate in training others. So, the degree that I'm training – when I'm training others - allows me in turn to be trained. Where a normal officer might have 10 hours/15 hours or less of combatives training or UoF training on an annual basis. I have somewhere in the area of 100/150/200 hours of actual training in this. As a result it has allowed me to develop reflexes to deal with surprising situations."* (D1P2)

- *"Again, my training – experience. I've used all my equipment. I've used my Taser, I've used my pepper spray. I'm a pepper spray instructor. I mean I've used*

my firearm in the line of duty. I have confidence in the tools, I have confidence in myself, and again I have a higher level of training than, I think, an average police officer being a SCAT instructor and having gone through it and training other people. I think just learning from other people's failures when I'm training them actually helps get me more prepared for different things that happen. (D3P3)

- *Years of experience that have come into it. Years of instructing combatives for the organization I'm with. I think that prepares me."* (D5P2)

The role that experience plays in preparing officers for violent police-public encounters was also explored in the semi-structured group interviews. The question presented to each group was, "What role does experience play in preparation for violent police-public encounters?" The necessity for proper and relevant experience emerged as a predominate theme as represented by the following comments:

- *"[e]xperiencing a particular situation and training on a particular situation develops more confidence and allows an officer to become more efficient in being able to make the decisions that they have to make and not be excessive or incorrect with their force application."* (D1P1)

- *"It has a lot to do with it. The less experience you have – pretty much – if you're new – it's your first few months, or whatever, your only experience is in the Academy and as far as I understand, right now, some Academies are not even doing Red Man suits…. And a lot of the people we're seeing come through here … probably have never been in a physical fight before, so, I mean they may get hit in the face or get punched or something and completely lose it and may think it's life threatening… They don't have much to adapt to because they don't have anything to compare it to whereas any of us in here – we've all been in different encounters, most of us have probably been punched and in fights and know how to adapt to the situation as it unfolds. Whereas, if you've never been involved in it you don't know how to react to it, so there's a good chance you're not going to react properly."* (D3P3)

- *"[y]ou'd have to break down what that person has done or what they're currently doing."* (D3P1)

- *"I would also say that any experience has to be qualified with – it has to have been correctly reflected upon and looked at, because otherwise you just continue to make bad decisions based on bad experiences… Every rep you do at anything either makes you better at being good or better at being bad."* (D4P2)

From an analysis of the results and findings, it is apparent that confidence and adaptability converge as byproducts of experience to influence UoF instructors' perceptions about their own preparation for violent police-public encounters. Experience gives instructors different skill options from which they can draw upon in the critical moments of an encounter. These instructors then use their adaptive expertise to select the appropriate option they feel will correctly and justifiably resolve the problem. Their confidence is derived from their years of experience as a police officer, practitioner in the application of force, and experience as a UoF trainer. Both converge to forge a sense of cognitive readiness beyond their perceptions of the average officer.

RQ3: How does psychological conditioning (control of fear, anxiety, anger, etc.) influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

Four items on the survey were related to the third research question. Table 4.6 provides a composition of the survey responses.

Table 4.6

Composition of the Survey Responses for RQ3 (n = 317)

Question	Category	Frequency	% of n
SQ24. In violent situations, I experience anxiety [Anxiety defined as a feeling of unease about an imminent event or uncertain outcome].	Never	39	12.2
	Sometimes	233	72.8
	Regularly	36	11.3
	Often	5	1.6
	Very Often	4	1.3
SQ45. When the chance of violence is likely, I rather avoid the situation.	Strongly disagree	70	21.9
	Disagree	117	36.6

	Somewhat disagree	34	10.6
	Neutral	40	12.5
	Somewhat agree	25	7.8
	Agree	24	7.5
	Strongly Agree	7	2.2
SQ46. I would experience less anxiety when managing potentially violent encounters if I had more use-of-force training.	Strongly disagree	3	.9
	Disagree	23	7.2
	Somewhat disagree	16	5.0
	Neutral	49	15.3
	Somewhat agree	74	23.1
	Agree	95	29.7
	Strongly Agree	57	17.8
SQ48. I would experience less anxiety with violent encounters if I received more reality-based training in the applications of force.	Strongly disagree	1	.3
	Disagree	11	3.4
	Somewhat disagree	3	.9
	Neutral	28	8.8
	Somewhat agree	60	18.8
	Agree	124	38.8
	Strongly Agree	90	28.1

The results in Table 4.6 show that 87% of respondents at least "sometimes" experience anxiety in violent situations. But this feeling of anxiety did not deter respondents from avoiding the situation when the chance of violence was likely (69.1%). When probed about the potential effect of training on lowering one's anxiety to properly manage a potentially violent encounter, a significant number of respondents "somewhat agreed" to "strongly agreed" that more UoF training would lower the effects of anxiety (70.6%) and improve their ability to manage the encounter (83.5%).

Emotional influence in critical decision making relative to violent encounters was also explored in the semi-structured interviews. The question presented to each group was, "How does negative stress (i.e. fear, anxiety, anger, etc.) influence UoF performance?" Two themes emerged from the discussions. One theme focused on a tendency to revert to primal action when emotions create cognitive impairment. D1P1 shared the following, "The more engaged your system is with those emotions (fear, anger, etc.) the more primal your responses start to become and the less cognitive you are able to be." D3P2 supported this statement by saying, "If I'm

dealing with someone and I get angry, I'm going to start getting emotional about it versus solving the problem". D1P3 further supported this statement sharing,

> *"I think that because emotions are so powerful they tend to overpower any cognitive thinking, any procedural/prerequisite knowledge… Whenever emotions are amped up - people say it – you're not thinking clearly. Well put that individual into a life or death situation – those emotions of fear and anger, etc. those are overpowering. So, it's so much harder for an individual that has not been exposed to critical situations to think and access that knowledge which allows them to deal with those situations, resulting in incorrect or excessive force."*

The comments made by these participants exemplify an understanding that negative emotions can create barriers to critical thinking, thereby clouding one's ability to properly assess and respond to the situation leading towards a more primal response. Several participants, however, acknowledged the influence of emotion when engaged in the process tracing component. All the experts were observed focusing on the outward emotional state of the suspect versus their own emotional states. Instead of going direct to action out of fear, anger, anxiety etc., they proceeded to detail the negative emotional cues indicated by the suspect and 10 of the 15 described attempts to de-escalate the suspect through verbal commands prior to indicating the use of physical force. The following statements exemplify this observation:

- *"His face and body language indicate aggression. His brows are fowled, his shoulders are forward, and his steps toward me are deliberate and aggressive."* (D1P2)

- *"He is walking very fast, his fists are clinched, and his voice/his face is contorted in a manner that appears distressed or upset about something."* (D1P3)

- *"[e]ven the face, he's got that aggression."* (D2P1)

- *"I would give him verbal commands to start with as soon as he came up to try to get him to settle down a little bit first – not to challenge voice for voice."* (D2P3)

- *"As soon as this guy comes around the corner, I would start giving commands, 'Stop where you are!'"* (D4P1)

- *"I would try to tell him to 'Stop!' where he was and try to get him to do what I want him to do. If he failed to comply, I would create distance and continue to try and communicate with him until he became assaultive – trying to punch me – at which point I would try to go to pepper spray or get him into an arm-bar and take him to the ground."* (D3P3)

The second theme focused on diminished performance resulting from liability concerns. D3P1 shared the following,

> *[Common expression from officers]* *"I don't want to get into a use-of-force situation, because them I'm gonna have paperwork to do, I'm going to get in trouble, I'll have to go to IA, be interviewed. Those are all huge factors to consider. Officers are going to want to avoid that."*

D5P2 supported this statement by saying,

> *"Because of the dynamics of improper use-of-force (i.e. lawsuits, possible jail etc.) they're less likely to use the correct amount of force. In other words, they may choose an option that's a lower level force even though they're justified to use higher levels of force in fear that it is the wrong decision and it will affect them personally."*

These comments exemplify a degree of anxiety about using force resulting from internal and external forces that officers feel unfairly puts them at a disadvantage anytime they have to use such force to effect an arrest and/or protect themselves or a third party from imminent harm. The result leads to an under use of force, which puts the officer or a third party at a greater risk of harm or causes complete disengagement by officers that borders on neglect of duty.

RQ4: What competencies of cognitive readiness are deemed essential for preparation and response to violent encounters?

Four items on the survey were related to the fourth research question. Item 11 sought clarification about cognitive readiness as a construct while item 17 probed the importance of

cognitive readiness in preparing pre-service and in-service police officers for violent police-public encounters. Table 4.7 provides a composition of the survey responses for these items.

Table 4.7

Composition of the Survey Responses for RQ4 (n = 317)

Question	Category	Frequency	% of n
SQ11. Do you view cognitive readiness differently from mind-set?	Yes No I don't know	171 118 28	53.9 37.2 8.8
SQ17. Is cognitive readiness an important construct to be considered when preparing pre-service and in-service police officers for violent police-public encounters?	Yes No I don't know	308 0.0 9	97.2 0.0 2.8

As shown in Table 4.7, (97.2%) of respondents agree that cognitive readiness is an important construct to be considered when preparing pre-service and in-service police officers for violent encounters. However, respondents are split as to whether mindset and cognitive readiness are one and the same with (53.9%) differentiating the two.

Survey items 13 and 14 explored the competencies of cognitive readiness in terms of importance. Not only were the competencies of cognitive readiness ranked according to their relevance and necessity in the context of a violent police-public encounter, but also, respondents identified competencies of primary focus within their respective UoF training programs. Table 4.8 reports the results for these survey items.

Table 4.8

Composition of Survey Responses for Competency Ranking and Frequency of Focus (n = 317)

Competency	(*M*)	(*SD*)	(*V*)	Frequency of Focus	% of n
Situational Awareness	2.69	3.33	11.11	270	83.85
Decision-making	5.11	3.7	13.68	234	72.67
Confidence	7.20	5.12	26.21	142	44.10

Critical Thinking	7.49	5.27	27.74	185	57.45
Problem-solving	8.91	4.64	21.49	140	43.48
Adaptability	9.22	5.14	26.41	111	34.47
Communication	10.18	5.77	33.27	150	46.58
Motivation	11.46	5.25	27.55	54	16.77
Procedural Knowledge	11.73	6.47	41.86	120	37.27
Pattern Recognition	12.55	6.00	35.96	68	21.12
Adaptive Expertise	12.70	5.46	29.81	44	13.66
Resilience	12.98	6.08	36.92	83	25.78
Interpersonal Skills	13.15	6.24	38.90	60	18.63
Prerequisite Knowledge	13.44	5.78	33.37	57	17.70
Desire	13.46	6.21	38.58	37	11.49
Metacognition	13.81	6.36	40.40	27	8.39
Automaticity	14.61	5.97	35.63	36	11.18
Leadership	14.93	5.83	33.94	31	9.63
Creativity	15.02	5.28	27.84	30	9.32
Teamwork	15.08	5.19	26.97	79	24.53
Emotion	15.89	6.21	38.59	30	9.32
Memory	16.06	5.11	26.14	23	7.14
Transfer	18.35	4.96	24.62	8	2.48

Situational awareness, decision-making, confidence, critical thinking, problem-solving, adaptability, communication, motivation, procedural knowledge, and pattern recognition were among the top ten relevant and necessary competencies of cognitive readiness for violent police-public encounters respectively. However, situational awareness (83.9%), decision-making (72.7%), critical thinking (57.5%), communication (46.6%), confidence (44.1%), problem-solving (43.5%), procedural knowledge (37.3%), adaptability (34.5%), resilience (25.8%), and

teamwork (24.5%) were reported as competencies of primary focus within UoF training

programs.

Figure 4.9 indicates the rankings for each a priori competency explored in this study, the

results associated with question 4 of the semi-structured group interviews, and the themes that

emerged from the discussion (see Appendix C).

Table 4.9

Summary of the Ratings by Survey Respondents (n = 317) Compared to Interview Responses and Themes from Interviews (n = 15)

Category	Competency	Ranking	Frequency referenced	Themes identified in support
Knowledge	Prerequisite knowledge	14	3	• Understanding the "rules of the game" • Knowing your legal authority and justification
	Procedural knowledge	9	3	• Knowing and understanding legal aspects, policy, and process
Skills	Situation Awareness	1	11	• Knowing what is going on around you • Recognizing the threat ahead of time
	Problem-Solving	5	5	• Moving beyond decision-making toward solution and/or resolution
	Adaptability	6	4	• Ease of transition due to changing conditions
	Decision-making	2	3	• Choosing from available options based on sound judgement and common sense
	Automaticity	17	2	• Ability to perform without too much thought • Subconscious competence
	Pattern recognition	10	2	
	Interpersonal skills	13		
	Communication	7	1	
	Memory	22		
Attitudes	Emotion	21	2	• Recognizing emotional influences in thoughts and action

	Confidence	3	6	• Self-awareness of abilities that allows for ease in transition from thought to action
	Desire	15	1	
	Motivation	8	1	
Attributes	Adaptive expertise	11	2	• Ease of transition based on experience
	Critical thinking	4	6	• Consideration to available options while taking important factors into account
	Resilience	12	1	
	Metacognition	16		
	Teamwork	20		
	Transfer	23		
	Creativity	19		
	Leadership	18		

The survey results were compared to the interview findings to determine whether there was convergence validity. This comparison, used as a means of triangulation of the data produced the results indicated in Table 4.10. The results of the comparison indicated that some

Table 4.10

Triangulation of the Quantitative and Qualitative Data

Category	Competency	Ranking: Survey	Rakings: Interviews (Frequency in brackets)
Knowledge	Prerequisite knowledge	14	5(3)
	Procedural knowledge	9	5(3)
Skills	Situation Awareness	1	1(11)
	Problem-Solving	5	3(5)
	Adaptability	6	4(4)
	Decision-making	2	5(3)
	Automaticity	17	6(2)
	Pattern recognition	10	6(2)
	Communication	7	7(1)
Attitudes	Emotion	21	5(2)
	Confidence	3	2(6)
	Desire	15	7(1)
	Motivation	8	7(1)

Attributes	Adaptive expertise	11	6(2)
	Critical thinking	4	2(6)
	Resilience	12	7(1)

of the highest-ranking competencies found in the survey results also rated among the highest considered by the interview participants with situational awareness, problem-solving, adaptability, decision-making, confidence, and critical thinking demonstrating the highest convergence.

Although knowledge was not found among the highest converging competencies, knowledge was expressed as an important competency to develop as it forms the foundation from which all UoF decision-making emanates. Without pre-requisite and procedural knowledge, officers have no understanding of their legal limits of authority, nor do they have a context of procedures from which to follow. The importance of knowledge as a construct to cognitive readiness was expressed in the following comments during the semi-structured interviews and process tracing interviews:

- *"I would say cognitive readiness for a law enforcement officer has a couple of sort of fundamental components. One is you need to know the rules of the game. You have to be fluent in being able to articulate what your legal standing is in any particular situation."* (D1P1)

- *"The time to know your policies and your laws and your rules isn't when you're out on the side of the road."* (D2P1)

- *"I usually try to get as much information as I can. What kind of disturbance and where is it at? Is it a house, is it a business, is it during the daytime, is it at night? What kind of area is it?"* (D2P3)

RQ5: How do the responses to Questions 1-4 influence current UoF training strategies?

Five items on the survey were related to the fifth research question. Table 4.11 provides a composition of the survey responses.

Table 4.11

Composition of the Survey Responses for RQ5 (n = 317)

Question	Category	Frequency	% of n
SQ15. Of the three training strategies listed, which strategy better prepares pre-service and in-service officers for violent police-public encounters?	Traditional VR Live Simulation	6 16 295	1.9 5.0 92.2
SQ19. In what subject area does the concept of cognitive readiness mostly apply?	SCAT Firearms Legal Patrol Techniques Other	106 63 4 141 3	33.1 19.7 1.3 44.1 .9
SQ28. I am satisfied with the current training methods used to prepare officers for violent encounters.	Strongly disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Strongly Agree	32 62 103 21 82 16 1	10.0 19.4 32.2 6.6 25.6 5.0 .3
SQ29. I am satisfied with the frequency of training provided in the skills and techniques related to subject control and arrest.	Strongly disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Strongly Agree	50 97 79 24 54 12 1	15.6 30.3 24.7 7.5 16.9 3.8 .3
SQ47. My ability to manage violent encounters would improve if I had more use-of-force training.	Strongly disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Strongly Agree	1 12 5 32 66 133 68	.3 3.8 1.6 10.0 20.6 41.6 21.3

The results in Table 4.11 show that many of the respondents are "somewhat" to "strongly" dissatisfied with the current training methods used to prepare officers for violent encounters (61.6%) and an even greater number of respondents are "somewhat" to "strongly" dissatisfied with the frequency of training received in the skills related to the application of force (70.6%). Many respondents, also, "somewhat agree" to "strongly agree" that more UoF training would improve their abilities to manage violent encounters (83.5%) and they overwhelmingly

identify "live-actor simulation" as the best strategy to prepare officers for violent police-public

encounters (92.2%).

The survey results found in Table 4.11 converged with other data presented to further

inform RQ5. Previous results found that 65.9% of respondents indicate that their department

incorporates practical application training in police UoF as an annual requirement, but 64.1% of

respondents report receiving less than 8 hours of practical UoF training annually. However,

43.1% of respondents believe that officers should receive 24-40 hours of annual UoF training

with 71.2% of respondents believing that it takes 16+ hours of annual training to maintain an

adequate state of cognitive readiness for violent police-public encounters. Previous data also

revealed that many respondents were dissatisfied with the range of skills taught to protect

officers against harm during violent encounters (69.7%) and there were mixed feeling about how

"useful" the current tactics are and how "easy" the techniques are to apply in the critical

moments of an encounter.

The overarching theme that emerged from the qualitative data was the value of reality-

based/scenario-based training. The UoF experts believe that reality-based/scenario-based

training offers a solution to enhance officers' preparation for violent police-public encounters.

This type of training strategy was referenced approximately 65 times throughout the semi-

structured group interviews. The following statements exemplify the importance UoF training

experts place on this training strategy.

- *"[y]ou can't just put someone in a class and say "here are some negative emotions you should avoid under stress." That's just not gonna work. You have to put them through reality-based, scenario-based training so they gather some experience under those circumstances, and some confidence with their abilities under those circumstances."* (D1P1)

- *"[w]e give them all these weapons and good training in BLET and even some in in-service, but I don't think we do enough scenario-based training."* (D4P1)

- *"[r]unning more Sims training – reality based training…now they're getting other avenues of thought process."* (D2P3)

- *"We are in the process of bringing that back with more scenarios, not just firearms, but SCAT, and hopefully some Simunition ™ stuff – with the Red Man suits and stuff like that."* (D3P3)

- *"Scenario based training is when we're able to start prepping the officers to be able to become cognitively or consciously aware – how to utilize UoF within a particular situation."* (D1P2)

Summary

The purpose of this study was to explore UoF instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience influences those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies with common tasks performed by expert UoF instructors to be incorporated in current UoF training strategies. A social constructivism paradigm using cognitive task analysis methods with qualitative and quantitative measures was employed in this study. The purpose of this chapter was to present the results and findings of the data collection methods as they related to each research question.

The results of the study suggest that UoF instructors generally feel that police officers are not adequately prepared for violent police-public encounters. They cite deficiencies in the range of tactics taught, the frequency with which UoF training is delivered, and obstacles such as: time, resources, repetition, motivation, and liability as overarching themes that prevent adequate training transfer and performance. Additionally, it is apparent that confidence and adaptability

converge as byproducts of experience to influence UoF instructors' perceptions about their own preparation for violent police-public encounters. They acknowledge the power of emotion in UoF decision-making, but their training, experience, and confidence allows them to focus more on the outward emotional state of the suspect instead of their own emotions. While they acknowledge the presence of negative stress within themselves during a critical encounter, the stress does not appear to cause paralysis in action. Situational awareness, problem-solving, adaptability, decision-making, confidence, and critical thinking were found among the highest converging competencies and reality-based/scenario-based training was cited as the most effective training strategy to enhance officers' preparation for violent encounters. The next chapter provides a discussion of these findings and results.

CHAPTER V

DISCUSSION

The goal for this study was to explore use-of-force (UoF) instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience and psychological conditioning influence those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies with current UoF training strategies to both conceptualize and operationalize cognitive readiness within the law enforcement training community. This chapter discusses the results and findings and connects them to implications for UoF training and areas for future research.

Researchers, practitioners, and legal experts recognize the need to identify and develop the competencies of cognitive readiness for application in the field of law enforcement (Faunta & Schatz, 2012; Gallagher, 2014; Grossman, 2009). While knowledge, skills, attitudes, and attributes serve as high-level constructs for building cognitive readiness (O'Neil et al., 2014), concrete identification of essential competencies necessary to enhance the UoF performance potential of individual police officers during crisis encounters is needed. Furthermore, perceptions regarding current readiness capabilities need to be examined to inform how prepared officers think they are versus how prepared they really are for violent police-public encounters. The significance of this study rests in exploring these factors to provide the foundation for building a cognitive readiness construct for violent police-public encounters.

This study took a different approach by diving into the cognitive domain and uncovering competencies of cognitive readiness deemed essential for preparation and response to violent

encounters. In addition, this study examined how UoF instructors perceive their own preparation and response to critical encounters to better understand how and why they leverage certain training strategies to teach essential skills.

The following research questions guided this study:

RQ$_1$: What are UoF instructors' perceptions of officers' preparation for violent police-public encounters?

RQ$_2$: How does experience influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ$_3$: How does psychological conditioning (control of fear, anxiety, anger, etc.) influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

RQ$_4$: What competencies of cognitive readiness are deemed essential for preparation and response to violent encounters?

RQ$_5$: How do the responses to Questions 1-4 influence current UoF training strategies?

The population for the study included 1775 Specialized Firearms instructors and Specialized Subject Control and Arrest Techniques instructors certified in the State of North Carolina for survey distribution. Of the 1775 potential participants, 317 respondents completed the survey in its entirety. Using specific inclusion criteria, 15 specialized instructors were identified, recruited, and selected as UoF training experts to participate in a video-based process tracing technique involving a potentially violent encounter. The experts then gathered in groups of three for semi-structured group interviews.

A concurrent transformative mixed-methods research design was used in this study. This design entailed the concurrent collection of both qualitative and quantitative data guided by the

researcher's theoretical framework (Creswell, 2014). Qualitatively, a process tracing technique was used to capture the cognitive insights of UoF training experts in response to a potentially violent non-deadly encounter. Semi-structured group interviews were also conducted to unlock important themes relevant to these experts' perceptions about cognitive readiness and discuss how essential competencies of cognitive readiness aligned with current UoF training strategies. Quantitatively, a modified version of the Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire was distributed to UoF instructors across the State of North Carolina to gain a broader perspective of instructors' perceptions about officer preparation for violent police-public encounters, to identify the essential competencies needed to enhance officers' cognitive readiness, and inform how experience and negative stress influence perceptions about their own preparation for violent encounters.

Results from the survey were compared against the findings from the process tracing interviews and semi-structured group interviews to serve as a function of triangulation of the data. Triangulation was used to determine whether there was convergence between the qualitative findings and the quantitative results to support the conclusions offered in this chapter (Creswell, 2014; McFee, 1992).

RQ1: What are UoF instructors' perceptions of officers' preparation for violent police-public encounters?

The survey results indicated a general belief that police offices are less than adequately prepared for violent police-public encounters. The results also showed that UoF instructors generally believe that the training officers receive in UoF related topics only slightly prepares them for such encounters. The responses to the interview questions left a clear impression that there are several obstacles to overcome to adequately prepare officers for violent encounters.

Among these were time, adequate repetition, resources, motivation/interest, and liability concerns.

Time. In terms of time, the results and findings revealed a general belief that officers do not receive an adequate amount of training time dedicated to use-of-force topics. There is a consensus among UoF instructors that is takes 16 hours or more of annual training to maintain an adequate state of cognitive readiness for violent encounters, yet, most UoF instructors report receiving less than 8 hours of annual UoF training and in some cases UoF training is completely neglected, leaving many officers without any type of refresher training for years. This is important to understand because skills decay over time when they are not properly refreshed or reinforced (Arthur, Bennett, Stanush, & McNelly, 1998). So, when skills are needed in the moments of a critical encounter, they will likely not be recalled or performed at a level of proficiency to be effective. In the words of the ancient Greek philosopher Archilochus, "In times of crisis, we do not rise to our level of expectation, we fall to our level of training."

It is well understood that police administrators must balance challenging staffing requirements while adhering to annual State training mandates that are often absent any use-of-force consideration. These mandates remove officers from their regular duties for significant periods of time throughout the year. Adding additional hours beyond this mandate is challenging in terms of maintaining adequate shift coverage and meeting community commitments. However, this study uncovered a gap that exposes training time as a significant concern. If police use-of-force is a concern for the organization then its leaders must explore opportunities to increase the amount of training time dedicated to the topic. It would benefit organizations to do a cost-benefit analysis to determine how additional training time could ultimately reduce other costs related to UoF encounters, specifically, as it relates to personal

injury and litigation due to inappropriate applications of force. Organizational leaders are likely

to find the benefits far outweigh the costs of such a commitment and the results can be shared

across the organization and to the community to gain support for the added training hours.

Adequate Repetition. A general lack of training time also effects the amount of

repetition officers can receive in any given UoF training session. A three-minute single officer

UoF scenario delivered to an average 20-person class takes well over two hours with proper

briefs, debriefs, and rotations. Inherently, there is a lot of downtime for individual participants

that is typically not leveraged. Using this example, an individual officer might participate in four

UoF scenarios in a given 8-hour training evolution. With 64.1% of survey respondents reporting

they receive less than 8 hours of practical UoF training annually, the number of annual

repetitions formally delivered is extremely limited. Additionally, several UoF training experts

pointed out that many officers tend to do minimal repetitions of a demonstrated skill/technique,

often telling the instructor that they already know how to do the skill/technique. Yet, in practical

environments, witnessed in training, in person, or via a recording device, these same officers are

observed using "sloppy" and "ineffective" tactics to control an assaultive aggressor. This point

is reinforced by Arthur et al. (1998) when speaking about the challenges faced by military

reserve personnel,

> Skill decay is particularly salient and problematic in situations where individuals
> receive initial training on knowledge and skills that they may not be required to
> use or exercise for extended periods of time. Reserved personnel in the military,
> for example, may be provided formal training only once or twice a year. When
> called up for active duty, however, it is expected that they will need only a limited
> amount of refresher training, if any, to reacquire any skill that has been lost and
> subsequently to perform their mission effectively (p. 58).

This statement holds true for police officers as well. Not every day does an officer engage in a

violent encounter, but when the moment presents, they are expected to perform in a manner

consistent with their training, but how often have they practiced the skill/technique they will be attempting to apply at the critical moment of a violent encounter?

Motivation/Interest. Hoffman et al. (2014) strike to the heart of understanding the essential influence of motivation and interest in building expertise. They cite Thorndike's (1912) "practice with zeal" philosophy as a catalyzing factor for the attainment of expertise and works by Gladwell (2009) and Shenk (2010) that differentiate talent versus ability. They further entice their readers with a 2006 quote from a General Motors Corporation commercial that says, "Amateurs work until they get it right; professionals work until they can't get it wrong". Given training time limitations and the need for repetition, officers must take equal ownership in their personal UoF training if they expect to build expertise in this area. This requires both motivation and interest to stay engaged in the topic and practice the fundamentals.

Several UoF training experts expressed concern with a general lack of motivation and/or interest in UoF training. These experts felt as though their training efforts were not taken seriously, especially given the serious nature of the subject-matter. Oftentimes, training environments turn into "playgrounds" that must be redirected by the instructor. They also expressed concerns with leadership not modelling the appropriate behavior, highlighting a concern that ranking officers often exclude themselves from UoF type of training. While technological innovations create opportunities for gaming-type of training that entertain many officers, hands-on practicals in fundamental skills and techniques are essential to successful UoF performance. While instructors can strive to add entertainment value to their respective lessons, the primary consideration should be establishing intrinsic motivation for personal and career survival that trumps any entertainment value in the lesson.

Resources. Whether it is the need for a firing range, driving track, mat room, Firearms

Training Simulator, driving simulator, RedMan™ training gear, simulation weapons, a

classroom, or monetary resources to support training efforts, most police organizations are very

limited in what they have and how much they can spend on UoF training. Most agencies must

leverage partnerships with local community colleges and/or borrow from larger agencies that

have adequate training resources to conduct advanced UoF training. Agencies are oftentimes

competing for the same resources, leaving many stranded with inadequate opportunities in terms

of time, space, equipment, and funding.

Liability Concerns. The fact that a lawsuit can be initiated against a police officer

and/or his/her respective agency is a reality any time force is used against another. This prompts

concern for failure to train liability, reflecting a deliberate indifference on the part of police

organizations to properly train its employees. The best example of this concern, cited in the

results section of this study, was "It's ridiculous that we're not required to recert with defensive

tactics. This is the stuff that the public expects from us." (D1P1). The courts have been telling

law enforcement for years that training has to be more reflective of the conditions that officers

would face while working (Ryan, 2007). While focused in the context of firearms training, the

emphasis is on continued training that reinforces the fundamentals of force application in

conditions that officers are likely to face in their respective working environments. Connected to

recent opinions, like the ones opined in *Armstrong v. Village of Pinehurst* (2016) which changed

the legal landscape governing electronic control devices, officers must be trained to differentiate

between passive resistant and active/assaultive behavior. UoF instructors, law enforcement

leaders, and police training directors must be vigilant to the evolving nature of police use-of-

force to appropriately shield the organization from liability dangers.

In terms of instructional scope and sequence, UoF instructors have concerns with what is being taught, how immersive the training is or should be, and how much training time is allocated to adequately prepare officers for violent encounters. The current literature on expertise supports the idea that high levels of training are needed to successfully perform in unanticipated, rapidly changing, or chaotic high-stress conditions (Hoffman et al., 2014). In general, UoF instructors feel that police officers are not getting high-levels of training in UoF decision-making and skill performance. This lack of training makes it very difficult to develop the proper schemas and mental models needed to bridge the preparation gap, resulting in the general belief that police officers are less than adequately prepared for violent encounters. Lack of preparation leads to mistakes that can result in serious injury or the loss of life, which is a devastating liability for police officers and organizations alike.

RQ2: How does experience influence UoF instructors' perceptions about their own preparation for violent police-public encounters?

Stage 4 of the Critical Decision Making Model, a UoF decision-making model advanced in the United States, asks officers to identify suitable responses to stop the threat that are "proportional, lawful, authorized, necessary, and ethical" with stage 5 challenging officers to select among identified options and taking action (PERF, 2015, p. 44). Inherent to this request is an understanding that officers must navigate through a maze of possibilities and force options before moving to action (Helsen & Starkes, 1999; Terrill, 2003). This requires adaptability, which includes high-level skill development in areas associated with mental model formation, mental projection to the future, and making sense of complex causality (Hoffman et al., 2014). Experience was offered as the vehicle for adaptability, driving other competencies like adaptive expertise and confidence in one's abilities. In terms of pedagogy, this necessitates a continual

process for building expertise from pre-service through the range of in-service populations.

Reality-based/scenario-based training was offered as the appropriate training strategy to enhance

expertise throughout all levels of police practice, but the obstacles and limitations discussed

relative to RQ_1 question the feasibility of an effective reality-based/scenario-based UoF training

program.

The data from the study indicate a convergence among confidence and adaptability as

byproducts of experience for elevating UoF instructors' higher sense of preparation for violent

encounters. Research shows that exposure and practice through actual experience is a key

contributor to accelerating expertise in complex environments (Hoffman et al., 2014). UoF

instructors, by the nature of their tenure as police officers and experiences as UoF instructors

receive far more repetition in the constructs that make-up cognitive readiness for violent

encounters. Whether it is through their personal experiences in using force, teaching others the

requisite skills in applying force, or evaluating the performance of student officers as they

complete evolutions of scenario-based training, UoF instructors enhance their expertise by

"seeing and doing" exponentially more often than the average officer. In thinking about the

notion that it takes years of practice to achieve expertise, UoF instructors accelerate their

development in this area through the routine practice they receive and opportunities they are

afforded to observe and evaluate others as they stretch their capabilities further and further.

RQ3: How does psychological conditioning (control of fear, anxiety, anger, etc.) influence

   UoF instructors' perceptions about their own preparation for violent police-public

   encounters?

Leyton-Brown and Jones (2009) speak about emotions as a complication to performance

in UoF decision-making. The structured group interview findings evidenced a connection

between the power of emotions and the poor UoF performance of less experienced officers in the critical moments of an encounter. Negative emotions impair the cognitive competencies associated with judgement, planning, and decision-making (FLETC, 2011; Hoffman et al, 2014). An analysis of the data from the study's survey provided several significant results. UoF instructors at least "sometimes" experience anxiety in violent situations, yet, this anxiety generally did not prohibit them from acting when the chance of violence was likely. These results are supported by Hoffman et al. (2014) as an "ability to recover from destabilizing perturbation in the work as it attempts to reach its primary goal" (p. 146). While UoF instructors acknowledge the power of emotions as a destabilizing force in UoF decision-making, their training, experience, and confidence allows them to set aside those emotions and focus more on the outward emotional state of the suspect. As such, they are less susceptible to emotional paralysis and act with intention to reach their primary goal.

This conclusion points toward the influence of emotional intelligence on UoF decision-making. Research has shown that individuals have the capacity to strengthen and develop emotional competencies that enhance one's emotional intelligence, as well as, influence a multitude of outcomes for improving quality of work and enhancing career success (Bar-On, 2006; Lam & Kirby, 2002; Webb, 2009). The idea that emotional competencies can be developed through training was expressed by UoF instructors with the vast number of respondents agreeing that more UoF training and focused attention to emotional control, would both lower the effects of negative stress and improve their ability to manage the encounter. They understand that certain emotions have the potential to negatively affect their cognitive and deliberative decision-making processes. As such, they view training as a means of conditioning to help them perceive, identify, understand, and react more appropriately to violent situations.

RQ4: What competencies of cognitive readiness are deemed essential for preparation and response to violent encounters?”

Figure 5.1 shows the a-priori list of competencies within the context of their higher-level constructs knowledge, skills, attitudes, and attributes. An analysis of the findings and results reveal situational awareness, problem-solving, adaptability, decision-making, confidence, and critical thinking as competencies demonstrating the highest convergence. While the highlighted competencies are considered essential to preparation and response to violent encounters, no single competency can carry an officer through the critical moments of an encounter.   Each of the competencies presented provide value to the overall construct of cognitive readiness, the highlighted competencies, however, provide an initial point of focus or foundation for preparing officers for violent encounters.
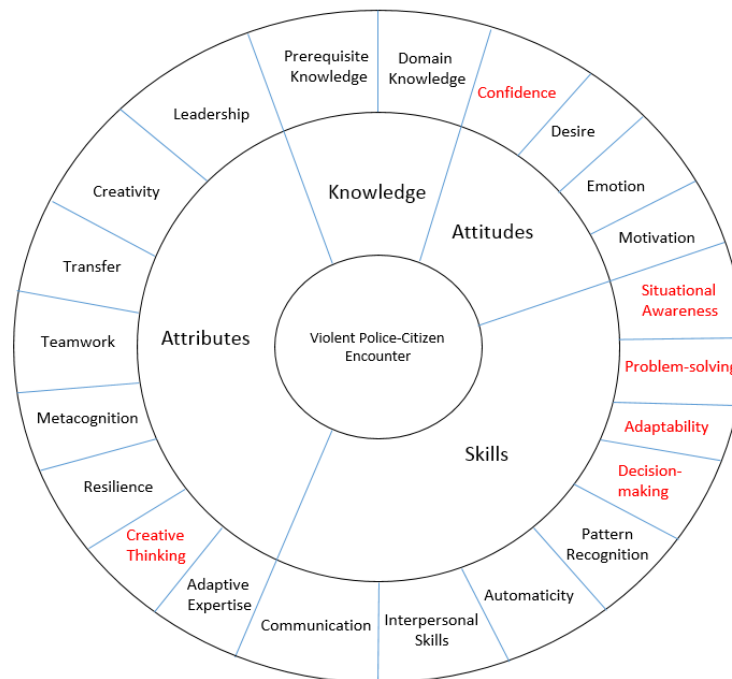

Figure 5.1 Core competencies of Cognitive Readiness for Violent Police-Public Encounters

Skills: SA, Problem-solving, Adaptability, and Decision-making. The following four constructs fall within the higher-level construct associated with skills. The following sub-sections explore each within the context of preparing officers for violent police-public encounters.

Situational awareness (SA). According to Morrison and Fletcher (2002), situation awareness "represents the initial perceptual analyses that precede decision and action" (p. II-1). Situational awareness is a fundamental skill for police officers necessitating acute awareness of one's surroundings to be fully engaged in the situation. Hoffman et al. (2014) suggest that higher-order cognitive skills can be used to develop situational awareness. They recommend training that allows practitioners to develop good mental models and training in the management of attention. Situational awareness is a skill that is sharpened over time through learned experiences and deliberate processes that cause officers to question what is going on around them pre-during-post an event.

Problem-solving. Problem-solving is a cognitive process directed at transforming a given situation into a desired situation when no obvious method of solution is available to the problem-solver (O'Neil et al., 2014, p. 8). In every encounter, officers must use problem-solving skills to diagnose the fundamental problem being faced to successfully resolve the situation. Sometimes layers must be removed before the true nature or root cause of the problem is identified. The speed of a violent encounter prohibits prolonged problem-solving, but continual training that develops good mental models creates shortcuts from orientation to action. Officers can quickly scan the situation and assess likely courses of action because they immediately recognize the problem and understand what solutions are most viable before acting.

Adaptability. Adaptability centers on the idea that the work domain is constantly changing requiring mental model flexibility (Mumaw et al., 2000). Adaptability is an essential competency for "working in the edge of chaos" (Renauld, 2012). Experts differ from novices in their ability to adapt to changing conditions and circumstances. They are better prepared to handle tough cases because of the vast array of mental models they possess that can be re-generated based on the information received (Hoffman et al., 2014). This allows them to work more fluidly in uncertain and chaotic environments. The most valuable weapon a police officer possesses is his/her mind. There is not a "playbook" for officer response to violent encounters, however, there is sensemaking and action derived from the fluid adaptability of stored mental models.

Decision-making. The decision-making process emphasizes the recognition of learned patterns, the review and selection of appropriate courses of action, and the allocation of resources to a problem (Slovic, Lichtenstein, & Fischoff, 1988). While situational awareness informs the decision-making process, problem-solving and adaptability moves the process toward action. Ultimately, thought must transform to action if protection and survival is to be achieved. In this regard, the gap between orientation and decision, in the OODA loop sequence, often seems vast. Yet, decisions are inevitably made in the critical moments of an encounter. The quality of the decision, however, is what is often debated, and when the decision-making process reverts to primal instincts, the outcome is often less than desirable.

Attitudes: Confidence.

Confidence is associated with the higher-level construct of attitudes. It is a belief in one's abilities. Originally excluded from the list of competencies that comprise cognitive readiness, confidence has emerged as a significant attitudinal consideration in UoF performance (Preddy,

Stefaniak, & Katsiouloudis, 2018). Confidence is an attitude to be learned. Confidence includes overconfidence and a lack of confidence in oneself, the force tool provided, and/or skill/technique taught. Confidence is developed through experiences in the field and in training environments that push individuals to a conscientious recognition of their limits. When deficiencies in confidence are noticed, effective remediation should be considered. However, this competency is largely overlooked or neglected. When an officer possesses a lack of confidence, they often go to the tool they are most secure with in times of crisis. This can lead to an over or under use of force, which is often judged as inappropriate in the best-case scenario or results in serious injury or death in the worst-case scenario. Without confidence in oneself and the tools and techniques provided for safety and security, officers are forced to rely on fewer options to effectively manage the situation.

Attributes: Critical Thinking. The critical thinking competency is associated with the higher-level construct of attributes. Fletcher and Wind (2014) identify critical thinking as an essential competency for identifying and evaluating alternative satisficing approaches to complex and unexpected situations. Sternberg, Roediger, and Halpern (2006) conclude that critical thinking is needed to ask the right questions, collect, organize, and assess relevant data, avoid bias and mind-sets, identify and evaluate assumptions, and generate and evaluate appropriate hypotheses. Critical thinking both informs and motivates the decision-making process, but like problem-solving the speed of an encounter prohibits prolonged critical thinking. This stated, critical thinking requires higher-order cognitive skill development and research suggests that high levels of training are needed to successfully develop this competency for unanticipated, rapidly changing, or chaotic high-stress conditions (Hoffman et al., 2014).

Knowledge: Domain and Prerequisite. As previously stated, the competencies associated with knowledge as a higher-level construct were not found among the highest converging competencies. However, both domain knowledge and prerequisite knowledge are fundamental to UoF performance. Domain knowledge provides the foundation from which UoF decisions are justified, while prerequisite knowledge establishes the steps for reaching a proper UoF decision. Questions related to the "right to be, right to see" legal limitation, search and seizure, detention and arrest and others like them inform the UoF decision. So, although domain and pre-requisite knowledge were not indicated among the highest converging competencies of cognitive readiness, there importance to the overall construct cannot be underestimated.

RQ$_5$: How do the responses to Questions 1-4 influence current UoF training strategies?

The most common instructional strategies currently used include: 1) reality-based instruction to establish the context for the lessons to be learned, (2) scenario-based practicals to situate the lesson to the preferred mental schema, (3) progressive training to advance basic skills, and (4) internet-based practicals with coaching feedback to allow for repetitive training and consistent reinforcement of the preferred mental schema. RQ$_1$ identified obstacles to overcome to increase the learning effectiveness and transfer of current UoF training programs. RQ$_2$ identified the value of experience in building the proper mental models and schemas needed for adapting to violent encounters. RQ$_3$ highlighted the power of emotions and concerns with emotional impairments to UoF performance. RQ$_4$ identified core competencies of cognitive readiness within the context of violent police-public encounters. Answers to these questions provide the beginnings of a foundation for building a cognitive readiness construct for violent police-public encounters that can be leveraged in or with the current UoF training strategies identified.

Limitations

This study presented several limitations relating to participants and the subject matter:

1. The qualitative strand of this study was limited to a small sample size of 15 UoF training experts in the State of North of Carolina that met specific selection criteria.

2. The quantitative strand of this study was limited to Specialized Subject Control and Arrest Techniques instructors and Specialized Firearms instructors in the State of North Carolina.

3. The study targeted trainable competencies of cognitive readiness in the context of a single phenomenon (a violent police-public encounter).

4. The researcher's subjectivity was considered a possible limitation. Having been immersed in this topic for over a decade, the researcher possessed strong feelings, beliefs, and biases that needed to be monitored throughout the study to enhance its credibility. However, honoring the tradition, adhering to the study's design, utilizing a research team, and projecting the participants' voices when appropriate served to enhance the accountability and credibility of the study.

Implications for UoF Training

A focus on the study's findings leads to recommendations related to scope, sequence, and pedagogy to foster expertise in the appropriate use of force. These recommendations have varied implications for UoF training. Each are addressed in the subsections below with evidence to support the recommendations made. UoF instructors, law enforcement leaders, and police training directors can evaluate these recommendations based on their unique circumstances and

implement one or more as new initiatives or updates to current training programs and/or practices.

Scope

Expertise is the achievement of high-levels of proficiency applied to real-world contexts (Hoffman, 2014). Expertise is a defining characteristic of a professional and it is the knowledge and skills of the professional that sets him/her apart from others (Glenn et al., 2003). Glenn et al. (2003) go on to state, "Professionals understand the need to gain and maintain proficiency as the demands of their profession evolve. The officer who does not maintain his expertise can sacrifice his status as a professional" (p. 120). The police profession is in a constant state of change which requires its professionals to adapt to new, ill-defined, and rapidly changing conditions. Comprehensive training that focuses on expert performance of both physical and mental aspects of the police profession is, therefore, essential (Glenn et al., 2003; PERF, 2015).

Most programs include physical skill development and applied training. However, the rigor of each program varies significantly in terms of content and how the content is delivered. While some states have progressed in terms of scope that connect "hard skills" with cognitive aspects that underpin UoF decision-making, there is a gap or lack of consensus in what knowledge, skills, behaviors, attitudes, and attributes are essential to enhance overall UoF performance. It is therefore recommended that UoF instructors, law enforcement leaders, and police training directors focus their UoF training efforts in those competencies deemed essential for preparation and response to violent encounters. Figure 5.2 offers a UoF training model that can be incorporated into most current UoF instructional strategies.
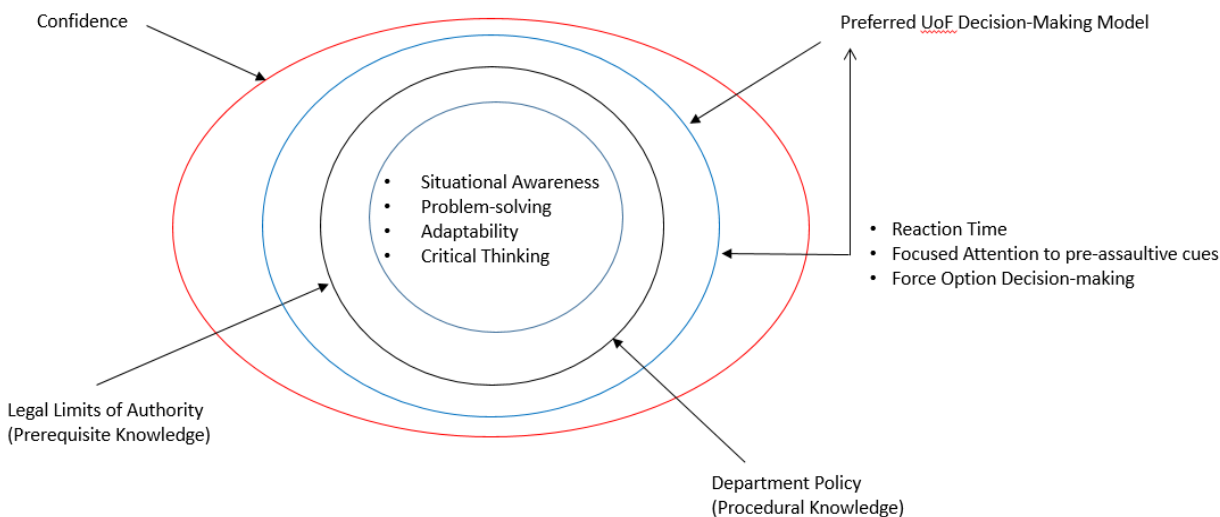
Figure 5.2 Cognitive Readiness for UoF Training Model

The conceptual model presented provides a simplified representation a training concept that focuses on essential competencies of cognitive readiness for violent encounters. The center of the model represents a focus on situational awareness, problem-solving, adaptability, and critical thinking as the core competencies of cognitive readiness. The next ring focuses attention to the legal limits of authority that govern UoF decision-making and the policy restrictions that guide officers' responses as elements of domain and procedural knowledge. The next ring reinforces the department's preferred UoF decision-making model, with emphasis given to training officers in reaction time, focused attention to pre-assaultive cues, and force-option decision-making. The outermost ring focuses on building confidence through deliberate training within and between each ring of focus. The intent is to create capacity to move seamlessly between the rings while developing multiple paths to UoF performance success.

Sequence

Rapid OODA looping, a concept that allows officers to gain a tactical advantage based on his/her rapid observations, orientations, decisions, and actions to stop a threat, is built on a solid foundation of continuous training emphasizing the fusion of cognitive decision-making abilities with physical skills during chaotic and uncertain circumstances (Leland, 2009). The absence of such training has been cited repeatedly as a factor in poor performance when conditions turn dangerous, ill-defined, and/or have a high degree of uncertainty (Murray, 2006). Current UoF training sequences minimally address and/or fail to enhance the rapid OODA looping process. Likewise, control techniques and firearm skills are often taught in a vacuum with little attention given to the cognitive demands associated with each. To adequately address this concern, it is recommended that state officials responsible for law enforcement training convene a panel of UoF training experts to study and make recommendations for the proper sequencing of UoF training. This body would also examine issues related to transfer and decay and offer common tools, techniques, and training strategies that would be presented for consideration and adoption as a comprehensive law enforcement UoF training program for the state.

Pedagogy

Today's police environment is complex, requiring officers to think faster, recognize and react more quickly to assaultive cues, notice more detail, and remember more in terms of policies procedures, and the legal requirements that govern police use-of-force. This requires officers to be more than just a "professional", they must become experts on the topic. One of the significant challenges with developing and sustaining expert performance, as expressed by Ericsson (2014), is "in designing training environments with challenging relevant situations that require immediate action and that provide feedback and opportunities for repeated encounters of the

same or similar task" (p. 192). Deliberate practice in the conditions that mimic the realities of the field while integrating topics that are linked to real life events offer greater potential for learning and transfer to real-world contexts (Glenn et al., 2003). This type of education transforms learning into an experience that challenges officers' understanding and creates avenues for transformative learning (Larsen-Freeman, 2013). Law enforcement administrators and organizational trainers have taken notice of the value of experiential learning and have started utilizing innovative experiential learning environments in many of their courses to create opportunities for students to see, hear, say, and do.

Live actor simulation was overwhelmingly recognized by UoF instructors as the most effective instructional strategy to enhance the familiarity with the UoF environment and teach the skills necessary to maintain effective task performance under stressed conditions, but time, resources, repetition, motivation, and liability were cited as barriers preventing its effective use. It is therefore recommended that UoF instructors, law enforcement leaders, and police training directors explore the use of alternative PC-based solutions to augment their current UoF training programs.

Trends in UoF training point directly toward technology-based instruction. This progression has been observed with the wide-spread use firearm simulators. While these systems provide a degree of interactive UoF rehearsal, they are costly and fail to address training distribution and modification needs. PC-based UoF training platforms offer a different alternative to traditional, FATS, and live-actor scenario-based training strategies. They leverage video-based simulation, virtual-reality technology, cognitive training exercises, and game theory to support cognitive skill development.

Using interactive video simulations of real-world situations, officers can gain exposure to a wide-range of UoF interactions. Immediate feedback can also be provided to enhance the core competencies identified in this study. In terms of time, having the flexibility to train on-duty for a short period of time addresses many concerns related to staffing thus effecting aspects of quality of service to the community. In terms of liability, having the flexibility to train anytime for 10 minutes or longer over an annual period adds significantly to the overall UoF training an officer typically receives throughout his/her career. This in turn strengthens the officer's and the department's shield of liability.

Lastly, in terms of sustainment, research shows that consistent training over time produces greater retention and transfer than training done once or twice annually (Hoffman et al., 2014). This type of instructional methodology, has the potential to enhance officers' capacity to process more information faster, react more quickly, notice more detail, and avoid distractions when interacting with citizens. The resulting increased capacity will help officers avoid cognitive overload, thereby enhancing the core competencies identified and improving the likelihood of making high-quality decisions, especially when under stress.

Areas for Future Research

While it is believed that the previous recommendations have the potential to increase officers' mental preparation for violent police-public encounters and enhance overall UoF performance, further study needs to be completed. It is therefore recommended that researchers interested in police practices, workforce education, and/or instructional design examine the effects of simulation training on the competencies of cognitive readiness, UoF decision-making, and UoF performance. The fact that innovative approaches to UoF training have been realized in the form of simulation may not inherently enhance the UoF performance of those receiving this

type of training. Other areas of inquiry include the effects of fidelity on outcomes associated

with the competencies of cognitive readiness, UoF decision-making, and UoF performance.

While flight simulators are proven to have a high degree of fidelity and transfer (O'Connor &

Cohn, 2010), the same may not hold true for UoF/Firearms simulators. In addition, there are

questions related to the effects of UoF simulation on emotional outcomes and emotional

intelligence, as well as how pre-requisite and procedural knowledge get expressed in behavior.

This study sparks questions as to how cognitive readiness is developed, practiced, and

tested. The answers hinge on the hypothesis that higher cognitive readiness equates to "better"

use-of-force performance, all other factors being constant. Testing a working hypothesis will

depend upon the ability to operationalize the independent variable, dependent variable, and any

potential moderating variables. This study offers the first step in identifying essential

competencies to be trained and measured. Of course, use-of-force performance needs to be

clearly defined as well. What constitutes superior and poor use-of-force performance? One

might refer to the absence of injury to the involved officer. Another may refer to the absence of

injury to the suspect. Others may point to the "least amount of force used to effect the arrest".

The point is, without clearly defined measures for cognitive readiness and UoF performance,

training to enhance overall UoF performance is highly subjective. Therefore, valid and reliable

metrics are needed to accurately determine an individual officer's cognitive readiness for violent

police-public encounters while accurately measuring for UoF performance.

As cited previously, fundamental questions still exist pertaining to what the core

competencies in UoF decision-making are, how specific instructional strategies influence these

core competencies, and what the central focus of training is (i.e. to test, teach, or check a box to

shield liability risk). Research into these and other questions have the potential to transform how

and why UoF training is done now and in the future. More importantly, answers to these questions not only highlight a need for UoF training strategies that transcend traditional methods, but also emphasizes a need for pinpoint focus on instructional design as a mechanism for "putting the lesson before the test, instead of putting the test before the lesson".

Conclusion

This study explored UoF instructors' perceptions about cognitive readiness in the context of violent police-public encounters, examined how experience and psychological conditioning influence those perceptions, identified competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and aligned those competencies with current UoF training strategies to both conceptualize and operationalize cognitive readiness within the law enforcement training community. The findings from this research can be used to assist UoF instructors, law enforcement leaders, and police training directors to further build a cognitive readiness construct for violent police-public encounters. These stakeholders can then use this construct as a new initiative or update to their current UoF training program and practices. UoF instructors can refer to this study as a professional development guide that educates them about cognitive readiness and how to leverage essential competencies of cognitive readiness in current training strategies to enhance officers' overall preparedness for violent encounters. They can also refer to this study when providing counsel to Training Directors and Chiefs concerning UoF preparation and performance. Law enforcement administrators can benefit from the information in this study and use it as a reference to guide their department's annual mandated training efforts and training budget considerations. They can also use this information to help inform the public when the public calls into question an officer's use-of-force. Lastly, police officers can use the information in this study as a guide to better prepare themselves for critical encounters.

Overall, the intended use of this study is to add to the body of literature on police UoF

performance and training while honoring the men and women behind the badge and serving the

needs of the community.

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APPENDICES

Appendix A

Consent Form

PROJECT TITLE:
Building a Cognitive Readiness Construct for Violent Police-Public Encounters
<u>**INTRODUCTION**</u>
You are being asked to participate in a study to gain insights into building a cognitive readiness construct for violent police-public encounters through an examination of what police use-of-force instructors envision when they seek to train others for such encounters. You are being asked to participate in this study because you are an experienced police officer currently holding a certification as a Specialized Subject Control and Arrest Techniques instructor and/or Specialized Firearms instructor. The insights provided will be used to explore instructors' perceptions about cognitive readiness in the context of crisis encounters, in addition, to identifying how they apply the competencies of cognitive readiness deemed essential for police use-of-force preparedness and response in their respective use-of-force training environments.
<u>**RESEARCHERS**</u>
<u>Responsible principal Investigator:</u>
Petros Katsioloudis, PhD, Associate Professor & Chair, College of Education, STEM Education & Professional Studies, Old Dominion University

<u>Investigator</u>:
James Eric Preddy, Graduate Student in Occupational and Technical Studies, Old Dominion University

<u>**DESCRIPTION OF RESEARCH STUDY**</u>
If you take part in the study, you will be asked to either participate in an interview that will consist of questions regarding your experience with managing violent police-public encounters and with instructing pre-service and in-service police officers in the skills and techniques for rapid identification, assessment, and response to violent police-public encounters; or complete a survey developed to inform perceptions about relevant competencies of cognitive readiness deemed essential to enhancing the use-of-force performance of individual police officers during crisis encounters.

<u>**RISKS AND BENEFITS**</u>
RISKS: There are no known risks at this time to participate in this study.

BENEFITS: You will be able to assess your knowledge, beliefs, feelings, and skills as a police officer and Specialized Subject Control and Arrest Techniques instructor to identify competencies and trainable features of the construct that can be observed and/or used to develop and/or enhance the current training strategies that exist for preparing police officers for the realities of a violent encounter.

<u>**COSTS AND PAYMENTS**</u>
There will be no costs to you for participation in this research study and the researchers are unable to give you any payment for participating.

<u>**NEW INFORMATION**</u>
If the researchers find new information during this study that would reasonably change your decision about participating, then they will inform you.

<u>**CONFIDENTIALITY**</u>

All information obtained about you in this study is strictly confidential unless disclosure is required by law. The results of this study may be used in reports, presentations and publications, but the researcher will not identify you.

The researcher will discuss the planned use of the information gained through this study with all study participants. Each participant will be assured that his or her privacy will be maintained by only using the information gained for the desired intent of this study. <u>Every effort will be made to protect written and electronic files by storing such items in locked filing cabinets.</u> To protect anonymity, no identifiable participant names will be entered on the transcribed documents. All written records will be disposed of by shedding or deleting files upon publication of the study.

WITHDRAWAL PRIVILEGE

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study at any time. Your decision will not affect your relationship with any associated organizations.

QUESTIONS

If you have any questions about this study now or in the future, you may contact the investigator, J. Eric Preddy, at the following phone number: 919-272-6939 or at jpred002@odu.edu. You may also contact the responsible principal investigator, Dr. Petros Katsioloudis, at the following phone number: 757-683-5323 or at pkatsiol@odu.edu. If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should contact Dr. Laura Chezan, Chair of the Darden College of Education Human Subjects Committee at lchezan@odu.edu or 757-683-7055.

VOLUNTARY CONSENT

By signing this form, you are saying several things. You are saying that you have read this form or have had it read to you, that you are satisfied that you understand this form, the research study, and its risks and benefits. The researchers should have answered any questions you may have had about the research. If you have any questions later on, then the researchers should be able to answer them:

J. Eric Preddy   Dr. Petros Katsioloudis, Responsible Project Investigator
919-272-6939   757-683-5323

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should contact Dr. Laura Chezan, Chair of the Darden College of Education Human Subjects Committee at lchezan@odu.edu or 757-683-7055.

And importantly, by signing below, you are telling the researcher YES, that you agree to participate in this study. The researcher should give you a copy of this form for your records.

_____   _____   _____
Participant's Printed Name   Participant's Signature   Date

INVESTIGATOR'S STATEMENT

I certify that I have explained to this participant the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws, and promise compliance. I have answered the participant's questions and have encouraged him/her to ask additional questions at any time during the course of this study. I have witnessed the above signature(s) on this consent form.

_____   _____   _____
Investigator's Printed Name   Investigator's Signature   Date

Appendix B

Process Tracing Instrument

1. How long (in years) have you been a sworn police officer within an accredited law enforcement agency?

2. How long (in years) have you been an instructor as a Subject Control and Arrest Techniques instructor and/or Specialized Firearms instructor?

3. How many police officers (pre-service and in-service included) do you instruct in use-of-force related topics annually (these topics include: subject, control, and arrest techniques and procedures, firearms, legal requirements in the application of force, escalation/de-escalation training, scenario-based use-of-force training, and/or patrol techniques?

4. How many incidents of documented use-of-force have you been involved as the principle officer?

5. You have just arrived on scene to a disturbance call and you are approaching the door to the residence. Please watch the video and describe out loud step-by-step the actions that you would take.

6. Describe the cues that you are looking for.

7. Identify significant decision points prior to and during the encounter.

8. What options are available at each decision point?

9. Why did you choose the option selected? Was your selection made with deliberate thought or was your choice decision made based on intuition?

10. How much time pressure would be involved in making each decision?

11. How confident are you in your abilities to manage situations like the one presented without causing undo injury to yourself or the suspect?
    o   Extremely unconfident
    o   Slightly confident
    o   Fairly confident
    o   Extremely confident

12. How would you assess your cognitive readiness for violent police-citizen contacts? Why?
    o   Extremely unprepared
    o   Slightly unprepared
    o   Slightly prepared
    o   Extremely prepared

Appendix C

Group Interview Instrument

1. How would you describe your Department's use-of-force training program in terms of effectiveness?

2. Define cognitive readiness in the context of preparing police officers for violent police-public encounters?

3. For this study, the term *cognitive readiness* involves the mental preparation needed to perform in complex and unpredictable environments (Morrison & Fletcher, 2001). How does this definition compare to your definition in terms of training officers for crisis encounters?

4. In your opinion what are the most relevant and necessary competencies of cognitive readiness in terms of training officers for violent encounters? List the following competencies in order of importance from 1 – 23, (1 being the most important competency).

____Situation awareness	____ Automaticity
____Procedural Knowledge	____ Motivation
____Metacognition	____ Emotion
____Decision-making	____ Teamwork
____Memory	____Prerequisite Knowledge
____Adaptability	____ Adaptive Expertise
____Creativity	____ Interpersonal Skills
____Transfer	____ Desire
____Pattern Recognition	____ Critical Thinking
____Confidence	____ Resilience
____ Leadership	____Problem-solving
____Communication	

5. How often do you train your officers for responses to violent encounters?

6. Do you believe the officers you train are generally prepared for violent encounters? Why?

7. How does negative stress (i.e. fear, anxiety, anger, etc.) influence UoF performance?

8. What role does experience play in preparation for violent police-citizen encounters?

9. Is cognitive readiness important to UoF training? If yes, how does it influence your instruction?

10. What is the best measure of use-of-force performance success? Why?

Appendix D

Survey Instrument

This study uses a mixed-methods approach involving specialized instructors in areas of Subject Control and Arrest Techniques and/or Specialized Firearms throughout the State of North Carolina to explore perceptions about cognitive readiness in the context of violent police-public encounters, examine how experience influences those perceptions, identify competencies of cognitive readiness deemed essential for preparation and response to violent encounters, and align those competencies deemed essential cognitive readiness with common tasks performed by expert UoF instructors to be incorporated in current and future UoF training strategies.

Your participation in this survey should require approximately 10-15 minutes and there are no known risks for participating. Sharing your ideas and knowledge about cognitive readiness and use-of-force training may benefit law enforcement trainers tasked with delivering UoF related training. Your answers will be kept confidential and the resulting data will not be linked to you in anyway.

I am asking you to please submit the survey by no later than June 15, 2018. Participants that submit a completed survey may choose to be entered in a drawing to win a $100 gift card, a $50 gift card, or a $25 gift card to Cabela's Outfitter. The drawing for these gifts cards will be June 17, 2018 and the winners will be notified by email.

By proceeding with the survey you are acknowledging that your participation is voluntary, you are a sworn police officer in the State of North Carolina, you are currently certified as a Subject Control and Arrest Techniques instructor or a Specialized Firearms instructor, and that you are consenting to the use of your responses for the purposes of this study.

You may quit the survey at any time, but only completed surveys will be entered into the

optional drawing.

Questions 1 - 9 asks descriptive information about you and the typology of your department and your work and training experience.

1. How long (in years) have you been a full-time certified law enforcement officer in the State of North Carolina?

2. Are you currently employed by a nationally accredited law enforcement agency in the State of North Carolina?
   o Yes
   o No

3. Which specialized instructor certification do you hold?
   o I am a Subject Control and Arrest Techniques instructor only
   o I am a Specialized Firearms instructor only
   o I am both

4. How long (in years) have you been an instructor in one or more of the following specializations: Subject Control and Arrest Techniques instructor, Specialized Firearms instructor?
   o < 3
   o 4-6
   o 7-10
   o >10

5. How often do you teach within your specialization?
   o Daily
   o Monthly
   o Periodically throughout the year
   o On rare occasions

6. How many incidents of documented use-of-force have you been involved as the principle officer over the course of your career?
   o < 3
   o 4-6
   o 7-10
   o >10

7. What is the typology category of your Department?
    o   Rural, < 50 officers
    o   Rural, > 50 officers
    o   Small Town, < 50 officers
    o   Small Town, > 50 officers
    o   Urban, < 50 officers
    o   Urban, > 50 officers

8. How many police officers (pre-service and in-service included) do you instruct in use-of-force related topics annually (these topics include: subject, control, and arrest techniques, firearms, legal requirements in the application of force, escalation/de-escalation training, scenario-based use-of-force training, and/or patrol techniques)?
    o   < 25
    o   26 – 50
    o   51 – 100
    o   101 – 150
    o   151 – 200
    o   > 200

9. How many advanced instructor-level courses have you taken on police use-of-force?
    o   > 3
    o   4-6
    o   7-10
    o   >10

Questions 10 - 22 targets your perceptions about cognitive readiness in the context of violent police-public encounters in terms of operationalization and training.

10. To what extent have you been exposed to the concept of cognitive readiness [Cognitive Readiness being defined as the mental preparation needed to perform in complex and unpredictable environments (Morrison & Fletcher, 2001)]?
    o   None at all
    o   A little
    o   A moderate amount
    o   A lot

11. Do you view cognitive readiness differently from mind-set?
    o   Yes
    o   No
    o   I don't know

12. In general, the training that officers receive in use-of-force related topics adequately prepares them for violent police-public encounters?
    o   Not at all
    o   A little
    o   Moderately
    o   Greatly

13. In your opinion what are the most relevant and necessary competencies of cognitive readiness? List the following competencies in order of importance from 1 – 23, (1 being the most important competency).

____Situation awareness   ____ Automaticity
____Procedural Knowledge   ____ Motivation
____Metacognition   ____ Emotion
____Decision-making   ____ Teamwork
____Memory   ____Prerequisite Knowledge
____Adaptability   ____ Adaptive Expertise
____Creativity   ____ Interpersonal Skills
____Transfer   ____ Desire
____Pattern Recognition   ____ Critical Thinking
____Confidence   ____ Resilience
____ Leadership   ____Problem-solving
____Communication

14. Which competencies do you primarily focus upon in your use-of-force training programs? (You may choose one or more responses).

____Situation awareness   ____ Automaticity
____Procedural Knowledge   ____ Motivation
____Metacognition   ____ Emotion
____Decision-making   ____ Teamwork
____Memory   ____Prerequisite Knowledge
____Adaptability   ____ Adaptive Expertise
____Creativity   ____ Interpersonal Skills
____Transfer   ____ Desire
____Pattern Recognition   ____ Critical Thinking
____Confidence   ____ Resilience
____ Leadership   ____Problem-solving
____Communication

15. Of the three training strategies listed, which strategy better prepares pre-service and in-service officers for violent police-public encounters?
   o   Traditional classroom instruction
   o   Virtual-reality instruction
   o   Live simulation

16. On an annual basis, how much training (in terms of hours) is needed to maintain an adequate state of cognitive readiness for violent police-public encounters?
   o   < 4 hrs.
   o   5-8
   o   8-16
   o   16-24
   o   24-40
   o   > 40

17. Is cognitive readiness an important construct to be considered when preparing pre-service and in-service police officers for violent police-public encounters?
    o   Yes
    o   No
    o   I don't know

18. In general, how prepared are police officers in the State of North Carolina for violent police-public encounters?
    o   Extremely unprepared
    o   Slightly unprepared
    o   Slightly prepared
    o   Extremely prepared

19. In what subject area does the concept of cognitive readiness mostly apply?
    o   Subject control and arrest techniques
    o   Firearms
    o   Legal
    o   Patrol techniques
    o   Other (Please specify)

20. Is practical application training in police use-of-force an annual requirement for all officers in your Department?
    o   Yes
    o   No
    o   I don't know

21. On average, officers employed with my agency receive _____ hours in practical use-of-force training annually?
    o   < 4 hrs.
    o   5-8
    o   8-16
    o   16-24
    o   24-40
    o   > 40

22. On average, I believe officers should receive _____ hours of practical use-of-force training annually?
    o   0
    o   1-4 hrs.
    o   5-8
    o   8-16
    o   16-24
    o   24-40

Questions 23 – 50 target your self-perceived preparation and skill in dealing with violent encounters.

23. How often have you experienced violence in your career targeted directly at you?
    o Never
    o Sometimes
    o Regularly
    o Often
    o Very often

24. In violent situations, I experience anxiety [Anxiety defined as a feeling of unease about an imminent event or uncertain outcome].
    o Never
    o Sometimes
    o Regularly
    o Often
    o Very often

25. I am satisfied with the current range of skills taught to protect officers against harm during violent encounters.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

26. The skills taught in subject control and arrest techniques are useful for violent situations.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

27. The skills taught in subject control and arrest techniques are easy to apply in violent situations.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

28. I am satisfied with the current training methods used to prepare officers for violent encounters.
     o Strongly disagree
     o Disagree
     o Neutral
     o Agree
     o Strongly Agree

29. I am satisfied with the frequency of training provided in the skills and techniques related to subject control and arrest.
     o Strongly disagree
     o Disagree
     o Neutral
     o Agree
     o Strongly Agree

30. The frequency of training received in skills related to the application of force has adequately prepared me for proper force applications in violent situations.
     o Strongly disagree
     o Disagree
     o Neutral
     o Agree
     o Strongly Agree

31. During non-deadly violent situations, I am able to apply suitable techniques to stop the threat.
     o Strongly disagree
     o Disagree
     o Neutral
     o Agree
     o Strongly Agree

32. During violent situations, my skill execution is different than how I learned in subject control and arrest techniques training.
     o Strongly disagree
     o Disagree
     o Neutral
     o Agree
     o Strongly Agree

33. During non-deadly violent situations, I apply different skills then those taught in subject control and arrest techniques training.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

34. During violent situations, I only apply skills learned in subject control and arrest techniques training.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

35. During violent situations, I am able to perform effectively without applying skills learned in subject control and arrest techniques training.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

36. Following a violent situation, I often feel that I applied legal force too early.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

37. Following a violent situation, I often feel that I applied more force than necessary.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

38. After a violent situation, I often feel that I applied force too late.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

39. After a violent situation, I often feel that I applied less legal force than necessary.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

40. After a violent situation, I have the feeling that I applied the wrong skills.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

41. After a violent situation, I have the feeling that I should have executed skills better.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

42. During violent situations, I am able to perform effectively.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

43. During violent situations, I know what I am doing.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

44. During violent situations, I experience problems.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

45. When the chance of violence is likely, I rather avoid the situation.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

46. I would experience less anxiety when managing potentially violent encounters if I had more use-of-force training.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

47. My ability to manage violent encounters would improve if I had more use-of-force training.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

48. I would experience less anxiety with violent encounters if I received more reality-based training in the applications of force.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

49. My ability to manage violent encounters would improve if I received more reality-based training in the applications of force.
    o Strongly disagree
    o Disagree
    o Neutral
    o Agree
    o Strongly Agree

50. I would like to be entered into the Cabela's Outfitter gift card drawing.
    o Yes
    o No

Appendix E

Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire and Permissions
Version Attached: Partial Test

Note: Test name created by PsycTESTS

PsycTESTS Citation:
Renden, P. G., Nieuwenhuys, A., Savelsbergh, G. J.P., & Oudejans, R. R. D. (2015). Dutch Police Officers' Self-Perceived Preparation and Skill in Dealing with Physical Violence Questionnaire [Database record]. Retrieved from PsycTESTS. doi: http://dx.doi.org/10.1037/t41145-000

Instrument Type:
Inventory/Questionnaire

Test Format:
The 33 items on the Questionnaire are answered in closed and open-ended format, and with 3- and 5-point Likert scales.

Source:
Renden, Peter G., Nieuwenhuys, Arne, Savelsbergh, Geert J. P., & Oudejans, Raôul R. D. (2015). Dutch police officers' preparation and performance of their arrest and self-defence skills: A questionnaire study. Applied Ergonomics, Vol 49, 8-17. doi: 10.1016/j.apergo.2015.01.002. © 2015 by Elsevier. Reproduced by Permission of Elsevier.

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ASDS preparation

1. I am satisfied with the current range of taught ASDS
2. The taught ASDS are useful skills in violent situations
3. The taught ASDS are easy to apply in violent situations
4. I am satisfied with the current method of how the ASDS trainings are provided
5. I am satisfied with the frequency of ASDS trainings apply ASDS in violent situations
6. The frequency of ASDS trainings is sufficient to adequately

Mean: satisfied with ASDS preparation ASDS use

7. During violent situations, I am able to apply the suitable ASDS
8. During violent situations, my skill execution is different than during ASDS training
9. During violent situations, I also apply alternative skills than just the taught ASDS
10. During violent situations, I only apply the taught ASDS
11. During violent situations, I am able to perform effectively without applying the taught ASDS

Mean: use of regular ASDS
Overuse of legal force

12. After a violent situation, I have the feeling that I applied legal force too early
13. After a violent situation, I have the feeling that I applied more legal force than necessary

Mean: overuse of legal force
Underuse of legal force

14. After a violent situation, I have the feeling that I applied legal force too late
15. After a violent situation, I have the feeling that I applied less legal force than necessary

Mean: underuse of legal force Problems with skill execution

16. After a violent situation, I have the feeling that I applied the wrong skills
17. After a violent situation, I have the feeling that I should have executed the skills better

Mean: having problems with skill execution Performance effectiveness

18. During violent situations, I am able to perform effectively
19. During violent situations, I know what I am doing
20. During violence situations, I experience problems
21. When the chance of violence is likely, I rather avoid the situation

Mean: performance effectiveness More frequent and more realistic training

22. In case of more ASDS training, I will experience less anxiety during police work
23. In case of more ASDS trainings, my ASDS performance in violent situations will improve
24. If training sessions become more reality-based, I will experience less anxiety during police work
25. If training sessions become more reality-based, my ASDS performance in violent situations will improve

Mean: Expect to experience less anxiety and to perform better with more frequent and more realistic training

APPENDIX F

LETTER TO GROUP PARTICIPANTS

James Eric Preddy
XXXXXXXXX
Morrisville, NC 27560

(Names of Participant)
(Address)

(Date)

Dear (Name):

I would like to thank you for participating in this study. The group and individual interviews are part of my dissertation research into cognitive readiness for violent police-public encounters. The insights gained from this part of the study will potentially expose the hidden cognitive processes involved in responding to a non-deadly violent police-public encounter pre-during-post encounter, as well as, inform perceptions relative the conceptualization and operationalization of cognitive readiness within the law enforcement training community.

The group will meet at (location address) on XXXX at XX:XX.

Please contact me if you have any questions or if a conflict develops and you will not be able to attend. I look forward to participating with you in the interview.

Sincerely,

J. Eric Preddy

APPENDIX G

INSTITUTIONAL REVIEW BOARD EXEMPTION

OFFICE OF THE VICE PRESIDENT FOR RESEARCH

Physical Address
4111 Monarch Way, Suite 203
Norfolk, Virginia 23508
Mailing Address
Office of Research
1 Old Dominion University
Norfolk, Virginia 23529
Phone(757) 683-3460
Fax(757) 683-5902

DATE: May 2, 2018

TO: Petros Katsioloudis, PH.D.
FROM: Old Dominion University Education Human Subjects Review Committee

PROJECT TITLE: [1233284-1] Building a Cognitive Readiness Construct for Violent PolicePublic
                               Encounters
REFERENCE #:
SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: May 2, 2018

REVIEW CATEGORY: Exemption category # *6.2*

Thank you for your submission of New Project materials for this project. The Old Dominion University Education
Human Subjects Review Committee has determined this project is EXEMPT FROM IRB REVIEW according to federal
regulations.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Jill Stefaniak at (757) 683-6696 or jstefani@odu.edu. Please include your
project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Old Dominion University
Education Human Subjects Review Committee's records.

Generated on IRBNet

James Eric Preddy

577 Tippet Road ~ Angier, NC 27501
919-272-6939
set081@aol.com

Summary

A dedicated professional with 24 years of progressive law enforcement experience. Proven track record of directing personnel to meet law enforcement objectives. A servant-leader and professional law enforcement educator who is skilled in the collaborative process of project partnership, instructional design, and training implementation. Have worked extensively with local, state, and federal officials in a variety of areas to enhance their preparedness capabilities. My demonstrated abilities include:

- Emergency Planning & Response
- Tactical Operations
- Policy Development
- Project Management

- Coaching/Mentoring
- Use-of-Force Instruction
- Instructional Design

- Leadership Development
- Specialized Training (Firearms/SCAT/Physical Fitness)
- Reality-based Training

Education

Old Dominion University
Ph.D.(c) ~ Education/Occupational and Technical Studies ~ Present

Gonzaga University
Master of Arts ~ Organizational Leadership ~ 2012

University of North Carolina at Charlotte
Graduated Cum Laude
Bachelor of Science - Criminal Justice ~ 1993

Federal Bureau of Investigation ~ 2008
New Agent Training Graduate

Charlotte Police Academy ~ Charlotte, NC
BLET Certification earned ~ 1993

Professional History

Morrisville Police Department, Morrisville NC   10/16-Present
Captain - Director of the Field Operations Division

> This position requires wide latitude in the direction, responsibility, and accountability of deploying personnel and resources based on the needs of the department and community. Successful performance requires significant involvement in community affairs and a responsibility for identifying and responding to crime trends. Work also entails considerable responsibility for managing diverse and complex police operations.

- Participates in the planning and supervision of an assigned division and coordination with other department divisions and Town resources/departments;
- Has latitude, responsibility and accountability for deploying personnel and resources based on the needs of the department;
- Serves as the media contact about major cases or crime trends;
- Identifies and responds to crime trends;
- Exercises regular supervision over subordinate police personnel;
- Develops work programs and assignments;
- Commands the overall activities of the Field Operations Division and all Special Operation activities;
- Reviews and evaluates the work of the Field Operations Division;
- Receives complaints and directs or assists subordinates in handling difficult problems;
- Provides technical advice to subordinates on the solution of difficult or unusual cases;
- Participates in the preparation of department budget;
- Participates in the training and evaluation of department personnel;
- Supervises and participates in the preparation of reports and correspondence;
- Reviews cases and assigns follow-up;
- Assists in the hearing and resolution of citizen complaints about departmental personnel;
- Makes recommendations of actions to be taken to the Police Chief
- Serves in the absence of the police chief;

Raleigh Police Department, Raleigh NC   11/08-Present
Sergeant ~ 2012 - Present
Supervisor and lead instructor for the RPD Reality-Based Training Team

This assignment requires specialized supervisory, administrative, and technical work in the development of police training programs and techniques. Work consists of supervising, preparing, and conducting basic and in-service training programs for police personnel. Work includes the development of course curricula and training schedules, in addition to the planning, coordination, and supervision of classroom instruction and practical training in real-world environments. Work requires the exercise of a high degree of initiative and independent judgment.

- Developed RPD's reality-based training model
- Designed and implemented a Leadership Challenge course for mid-level managers
- Partnered extensively with State and local resources for subject-matter training, scenario development and delivery, performance evaluation, and after-action review
- Partnered with Department personnel regarding budgetary matters concerning equipment and logistics
- Upheld laws and ordinances of the State of North Carolina and the City of Raleigh; responsible for felony and misdemeanor investigations involving both adult and juvenile offenders

Federal Bureau of Investigation, Roanoke VA   02/08-11/08
Special Agent
- Responsible for investigations into violations of federal law as a Special Agent
- Presented cases in federal court

Durham Police Department, Durham NC   01/97 – 02/08
Police Corporal
- Assignments in Special Operations, Criminal Investigations, and Field Operations

- Supervisor/ATL for a 14-man tactical operations team responsible for the planning and execution of high risk operations; trained in the use of advanced weapons and tactics.
- Conducted numerous investigations into a variety of crimes involving adult/juvenile victims and offenders.
- Specialized in cases involving gangs, drugs and weapons violations. Conducted search warrants, developed informants, and conducted surveillance operations.
- Served as a Task Force Officer for ATF and the FBI's (Organized Crime Drug Enforcement Task Force); presented cases in federal and state court; attained high conviction rate through solid preparatory investigation.
- Assigned to the Criminal Investigations Division – Lead Detective on numerous cases involving serious crimes against juveniles.
- Uphold laws and ordinances of the State of North Carolina and the City of Durham; responsible for felony and misdemeanor investigations involving both adult and juvenile offenders

Cary Police Department, Cary NC   03/96 - 12/96
Police Officer
- Assigned to the Field Operations Division
- Upheld laws and ordinances of the State of North Carolina and the Town of Cary; responsible for felony and misdemeanor investigations involving adult and juvenile offenders

Charlotte-Mecklenburg Police Department, Charlotte NC   06/93 - 08/95
Police Officer
- Assigned to the Field Operations Division
- Upheld laws and ordinances of the State of North Carolina and the City of Charlotte; responsible for felony and misdemeanor investigations involving adult and juvenile offenders.

Certifications and Training

Partial Listing
N.C. Advanced Law Enforcement Certification, NC DOJ ~ 2003
Force Science Institute Graduate ~ 2015
North Carolina General Instructor, NCJA
North Carolina Specialized Firearms Instructor, NCJA
North Carolina Specialized Subject Control and Arrest Instructor, NCJA
North Carolina Specialized Physical Fitness Instructor, NCJA
Rapid Deployment Instructor, NCJA
Advanced Law Enforcement Rapid Response Training Instructor, TSU
OSHA-HazMat Tech., DTCC
Tactical Team I, H&K International
Hostage Rescue, H&K International
Law Enforcement Sniper Course, NCJA
Sniper I, Costal Carolina Community College
Sniper II, Coastal Carolina Community College
Police Law Institute, Durham Technical Community College
Raleigh Police Department Leadership Institute Graduate
Street Smart Instructor Development for Law Enforcement Course
Street Smart Advanced Coaching Practicum
Simunition™ Scenario Instructor and Safety Certification Course
Franklin Covey's Diversity Centered Leadership Training
Armorer, Smith & Wesson (M&P, AR)

Professional Organizations

North Carolina Tactical Officers Association ~ President   04/17 - Present

North Carolina Law Enforcement Training Officers Association ~ Member   07/14 – Present

Publications

Bachman, M. W., Preddy, J. E., Anazlone, B. C., Deluca, M. B., Garner, D. G., Williams, J. G., & Myers, J. B. (2015). *Active threat response: Objective evaluation of an integrated rescue task force model*. Paper presented at the 2015 NAEMSP Scientific Assembly, New Orleans, LA.

Bachman, M. W., Anzalone, B. C., Williams, J. G., Preddy, J. E., Deluca, M. B., Garner, J. G., Cabanas, J. G., & Myers, B. J. (in press). Evaluation of an integrated rescue task force model for active threat response. *Prehospital Emergency Care*.

Preddy, J. E., Stefaniak, J., & Katsiouloudis, P. (in press). Building cognitive readiness for violent police-citizen encounters: A task analysis. *Performance Improvement Quarterly*.

Preddy, J. E. (2018). *Building a cognitive readiness construct for violent police-public encounters* (Unpublished doctoral dissertation). Old Dominion University, Norfolk, VA.