

2007

Do personality and other individual differences affect the development of post traumatic stress symptoms in male police officers?

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Megan Cheshire Myers
Do Personality and Other
Individual Differences Affect
the Development of Post
Traumatic Stress Symptoms
in Male Police Officers?

ABSTRACT

This study was undertaken to determine whether personality and other individual differences such as age, race, combat military experience, police experience, job assignment, and job satisfaction were associated with posttraumatic stress symptoms in male police officers. Secondly, I sought to determine if there a police personality distinct from that of the general population.

Questionnaire packets containing three instruments were distributed to 109 male police officers. Thirty officers completed and returned the study materials which included: a demographic questionnaire; a personality inventory to assess the domains of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness; and a trauma scale to assess the severity and frequency of intrusion, avoidance and hyperarousal symptomology.

The findings of the research demonstrated that years of experience and job assignment influenced the frequency and severity of symptomology reported. Additionally, the personality domain of conscientiousness appeared to be related to the severity of intrusion symptoms. Finally, police differed from the general population on the domains of neuroticism, extraversion, and openness to experience.

DO PERSONALITY AND OTHER INDIVIDUAL DIFFERENCES AFFECT THE
DEVELOPMENT OF POST TRAUMATIC STRESS
SYMPTOMS IN MALE POLICE OFFICERS?

A project based upon an independent investigation,
submitted in partial fulfillment of the requirements
for the degree of Master of Social Work.

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2007

ACKNOWLEDGEMENTS

This thesis could not have been completed without the support and assistance of many people whose contributions are gratefully acknowledged.

I wish to thank the police departments and the individual officers who graciously volunteered their time to participate in this research; my research advisor, Michael Murphy, for his commitment to guiding me through the thesis process; my parents for their unwavering love and support; and Todd for the love, encouragement, optimism and sense of humor that helped me through this past year.

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CHAPTER 1

INTRODUCTION

Police work is a stressful occupation. Officers may encounter various events through the course of their careers that contribute to the cumulative stress they experience. These events include responding to situations that are violent, disastrous or traumatic. In addition, officers frequently encounter situations in which they perceive or are at actual risk of personal injury or even death. Moreover, stress can occur because of organizational problems within departments. Organizational issues may include the need to work overtime shifts because a department is short-staffed, dissatisfaction with job assignment or limited opportunities for support within a department (Brough, 2005; Li-Ping Tang & Hammontree, 1992; Lord, 1996; Violanti & Aron, 1993).

Exposure to stress, whether this exposure is chronic or related to a single traumatic experience, can have several detrimental effects. Chronic stress can cause or exacerbate illnesses such as heart disease and ulcers. A person exposed to even a single traumatic experience may experience symptoms of posttraumatic stress disorder (PTSD). Some of the symptoms of PTSD include increased arousal, sleep difficulties, irritability, angry outbursts, difficulty concentrating, hypervigilance and exaggerated startle response

(Diagnostic and Statistical Manual, 4th ed., rev., American Psychiatric Association, 2000, p. 463). These symptoms can interfere with personal relationships and job performance.

Officers may experience symptoms of posttraumatic stress as a result of the very nature of their occupation. How well officers respond to the stress of their police work can affect their performance on the job, their personal relationships and their physical health. If we can garner a better understanding of the individual differences among officers that influence the development and severity of posttraumatic stress symptoms, police departments could improve the way they address the prevention and treatment of PTSD. Thus, departments could maintain higher rates of retention of officers, increase psychological well-being and improve morale, all of which would allow officers to function better in their occupational capacities. Recognizing and addressing symptoms of stress are essential to maintaining a healthy, well-managed police force.

Because stress can contribute to negative consequences for individual officers at work and for police departments as a whole, it would be beneficial both for police officers as individuals and for the departments to which they belong if there was a better understanding of the individual differences that might influence the development of posttraumatic stress symptoms. In addition, “from a community health perspective, the identification of readily measurable and potentially modifiable psychosocial determinants of PTSD holds considerable promise for targeting early intervention/secondary prevention efforts with a cognitive-behavioural focus” (Cox, MacPherson, Enns, & McWilliams, 2004, p. 106). If we can better understand the development of symptoms, we can work proactively to bolster resilience to development of symptomology as well as intervene on behalf of those affected by symptomology. This understanding could have a

major impact on the way PTSD among police officers is addressed by the departments in which they work and by providers in the community.

Interestingly, at least one study has shown that self-reports by police indicated that officers do not find their jobs particularly stressful (Hart, Wearing & Headey, B. 1995). The authors explain this result in part by personality factors and the possibility that individuals who become police officers have higher levels of psychological well-being than the general population. There may be personality traits common among officers that affect their ability to respond to traumatic incidents. A similar set of personality traits might not be as common among the general population as a whole. Conversely, police officers could be at a higher risk of PTSD because they are more frequently exposed to traumatic events.

In light of these problems, this study has sought to answer the following questions: What is the prevalence of PTSD symptomology of intrusion, avoidance/numbing and hyperarousal in male police officers? Is there a “police personality” different from that of the general population? Are certain personality domains associated with the development of PTSD symptomology? What individual differences are associated with the frequency and severity of PTSD symptomology in male police officers?

CHAPTER 2

LITERATURE REVIEW

Police officers respond to a wide variety of situations in the line of duty. It is likely through the span of a career in law enforcement that an officer will encounter dangerous situations in which there is risk to personal safety, exposure to fatality or serious injury of other persons, violence, weapons and a myriad of other possible scenarios. Exposure to events such as these carries the potential for the development of posttraumatic stress symptoms. It is important to recognize the presence of these symptoms and the effects that experiencing such symptoms might have on an officer's well-being.

Through this research project, I sought to address the following research questions: What is the prevalence of PTSD symptomology of intrusion, avoidance/numbing and hyperarousal in male police officers? Is there a "police personality" different from that of the general population? Are certain personality domains associated with the development of PTSD symptomology? What individual differences are associated with the frequency and severity of PTSD symptomology in

male police officers? The review of the literature is divided into sections on posttraumatic stress disorder and personality domains. What follows is a very brief discussion of the history of both these concepts with attention given to the literature that discusses the interplay of posttraumatic stress disorder and personality, especially as related to police officers.

Posttraumatic Stress Disorder

Historical Conceptualization and Development of Nomenclature

Although posttraumatic stress disorder (PTSD) was only formally conceptualized as a diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) in 1980, the presentation of symptoms for this disorder has deep historical roots in the experiences of military personnel exposed to combat. Several wars in United States' history have exposed our military personnel to traumatic experiences, and subsequently nomenclature emerged to describe the symptoms soldiers developed. The term *physioneurosis* was coined in 1941 by A. Kardiner in the first major study of combat-related psychological sequelae (Ozer, Best, Lipsey, & Weiss, 2003, p. 52). Following World War II, the phrase *shell shocked* emerged to describe the psychological struggles of some veterans of war (Berzoff, Flanagan & Hertz, 2004). By the late 1960s, *combat fatigue* began to appear in the literature (Ozer, et al.). It would take the experiences of veterans of the Vietnam War, along with the experiences of women who had been sexually assaulted to lead to the development of the diagnostic category of what is now called posttraumatic stress disorder.

During the 1970s, the Department of Veterans Affairs hospitals in the United States began to treat thousands of returning Vietnam War veterans for trauma-related symptoms. At the time, those veterans frequently received diagnoses of psychotic disorders such as schizophrenia. According to Ozer, et al. (2003):

Among the phenomena that were most commonly reported and observed in combat veterans were intrusive thoughts and images, nightmares, social withdrawal, numbed feelings, hypervigilance, and even frank paranoia, especially regarding the government. Vivid dissociative phenomena, such as flashbacks, occasionally characterized the symptom picture, and these symptoms may have centrally contributed to the misdiagnoses in the psychotic realm p. 52.

Around the same time, researchers began to recognize common symptomology experienced by women who had been sexually assaulted, although the gender-biased terminology used to describe the symptoms was quite different. These women were said to suffer from *rape trauma syndrome* and the victims described as avoidant, on guard, easily startled, and flooded with memories and images of the assault that could not be easily dispelled (Ozer, et al.). Researchers began to recognize that symptoms of soldiers and sexual assault victims were indistinguishable, despite the fact that they were experienced as a result of very different circumstances and by people of different genders.

Increased investigation among researchers into the symptomology that can develop as a result of exposure to a traumatic event led to the naming and inclusion of PTSD in the Diagnostic and Statistical Manual of Mental Disorders in 1980 (3rd ed., DSM-III, American Psychiatric Association, 1980).

PTSD Symptomology Defined

Currently, PTSD diagnostic criteria as listed in the DSM-IV-TR (4th ed., rev., 2000) have several components. The first criterion refers to the traumatic event and immediate response to the event. It requires that:

The person has been exposed to a traumatic event in which both of the following were present: (1) the person experienced, witnessed or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others (2) the person's response involved intense fear, helplessness, or horror p. 467.

This varies from previous editions of the DSM, which required that the event be outside the realm of normal human experience to be considered traumatic.

In addition, to be considered to be suffering from PTSD, a person must experience at least one symptom of intrusion, three symptoms of avoidance or numbing and two symptoms of hyperarousal directly related to the traumatic event. These symptoms must last for more than one month and cause significant impairment in functioning.

PTSD Prevalence in Populations Studied

Although PTSD was named concurrent to the development of an understanding of the suffering of Vietnam veterans and rape survivors, it has been transformed into a “prominent cultural model for understanding the suffering that can be caused by a wide variety of traumatic experiences, from automobile accidents to childhood sexual abuse” (Breslau, 2004, p. 113). Numerous studies have estimated the prevalence of PTSD in various populations. Perhaps the most comprehensive of these is the National Comorbidity Study (NCS). The data from the NCS were generated using a large-scale,

nationally representative sample of 5877 people aged 15 to 54 years old. The authors found an estimated lifetime prevalence of PTSD in the general population to be 7.8%, but with a prevalence rate twice as high among women (10.4%), compared to men (5.0%) (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

Several studies found varying degrees of PTSD prevalence based on both population and gender. For example, in a large scale study of Vietnam veterans, the congressionally mandated National Vietnam Veterans Readjustment Study (NVVRS), the authors estimated that 30.9% of men and 26.0% of women met the diagnostic criteria for PTSD at some point since their service in Vietnam (Weiss, et al., 1992). The estimate for prevalence of PTSD in Vietnam veterans at the time of the study was 15.2% for men and 8.5% for women (Schlenger, et al., 1992).

PTSD, Stress, and Police Officers

In a review article of police stress research, Abdollahi (2002) identified four main categories in which to divide the existing literature: intra-interpersonal, occupational, and organizational stressors and the health consequences of stress. This approach emphasized the important concepts that police stress can originate from a variety of sources and that it is difficult both to measure stress and to attribute it to a single source. The author concluded that the existing literature is often contradictory and inconclusive, with several exploratory studies conducted that are not based on any theoretical framework. Her recommendations for future research included clarifying the different types of stress that officers experience and employing a theoretical basis for exploration of research questions.

Stress can be an inherent part of the police profession. Police officers have unique demands placed on them because of the nature of their occupation. Officers are frequently called upon to respond to situations that are stressful and even potentially traumatic. These occupational stressors include, but are not limited to: making a violent arrest, being involved in a shooting, responding to a chemical spill, encountering a bloody crime scene, personally knowing the victim of a crime, being involved in a hostage situation, attending a police funeral, and being stuck by a hypodermic needle or otherwise being exposed to blood or bodily fluids (He, Zhao, & Ren, 2005). Similarly, O'Brien and Reznik reported that significant stressors for officers involved children, dealing with fatalities, and being threatened by a weapon (as cited in Anshel, Robertson & Caputi, 1997). He, Zhao and Ren analyzed an existing database of information gathered from a survey of 1106 sworn officers in Baltimore, MD to determine the interactive effects of race and gender on police stress. They divided the data sample into four subgroups, based on gender (male and female) and race (black and white). The authors found that *dynamic factors* such as work environment and coping mechanisms contributed to police stress more than *static factors* like gender and race.

Exposure to extremely stressful events can have several adverse effects. Stress has been shown to be detrimental to health (Cairney & Krause, 2005; Flach, 2005, Kraft, 2005; Schnurr & Green, 2004; Smith & Baum, 2003). In a well-recognized model of occupational stress developed by Cooper, Kirkaldy, and Brown (1993), the authors emphasized:

the impact of job-related stress on mental and physical or psychosomatic well-being has been well-established, both at an individual level (e.g. negative affect, depression, hypertension and coronary heart disease, etc.), as well as an

organizational level (e.g. diminished job satisfaction, inferior morale, increased staff turnover and uncertified absenteeism p. 653.

In this cross-sectional study, the researchers collected data from 533 senior police officers in the United Kingdom using two self-report questionnaires, the Occupational Stress Inventory and a demographic survey. The study found that the individual difference of Type A behavior directly impacted somatization while coping and external locus of control indirectly influenced the development of physical health issues through job satisfaction. Thus, relationships between the experiencing of stressors, satisfaction with occupation and health consequences were reinforced.

Police officers, as a result of the nature of the stressors they experience, may develop more health-related problems than the general population, especially if they experience more or greater job-related stress. In a longitudinal research study in which 60 police officers from seven suburban departments participated, Li-Ping Tang & Hammontree (1992) distributed questionnaires that measured police stress, life stress, illness, absenteeism and hardiness as experienced in the previous six months. The authors described hardiness in individuals as a trait that allows the individuals to experience stressors as controllable and challenging. The questionnaires were repeated, except for the measure of hardiness, six months later. These researchers utilized a conceptual model that incorporated the main effects of police and life stress and the interaction effects of hardiness on both illness and absenteeism and found that high levels of both life and police stress were significantly related to illness and police stress to absenteeism. Clearly, organizational stress can contribute to a myriad of negative health consequences.

Conversely, Hart, Wearing and Headey (1995) found that policing may not be considered stressful by officers. These authors compared data they collected in a cross-sectional study of 527 officers in Australia to normative data and discovered that the officers reported greater well-being and less psychological distress than an average member of the community. The authors explain this result in part through personality characteristics and the possibility that officers may start their careers with even higher levels of psychological well-being that may be decreased through continuous exposure to stressors inherent in police work. It would require a longitudinal study to determine whether, in fact, this was a veritable conclusion.

The prevalence rate of PTSD among police officers has varied across studies. In one cross-sectional study of 100 male suburban police officers, 13% met DSM-IV criteria for PTSD based on standardized measures (Robinson, Sigman, & Wilson, 1997). In this study, police officers were surveyed using a questionnaire that included a 25-item scale to measure duty-related stressors, the Impact of Events Scale-Revised, the Symptoms Checklist-Revised, a locus of control scale and an assessment of whether the police officers had participated in a critical incident stress debriefing. The study results indicated that officers with fewer than 11 years of experience reported more PTSD symptomology than their more experienced counterparts and that military experience was not an exclusionary predictor of the reporting of symptomology. Additionally, Robinson, Sigman and Wilson identified seven factors from the duty-related stressors that they labeled as death encounter, death exposure, physical threat, emergency response, pursuit activity, deadly force, and situational threats. The results of their data analysis suggest that death exposure and age predicted total PTSD symptomology and that intrusion,

avoidance and hyperarousal symptom clusters, as measured by the Impact of Events Scale-Revised, were predicted by death encounter and death exposure.

More recently, a cross-sectional study of an elite unit of 157 male police officers in Brazil found rates of full and partial PTSD to be 8.9% and 16%, respectively (Maia, et al., 2007). In this study, participants were considered to have partial PTSD if criteria for at least two out of the three symptom clusters as outlined in the DSM-IV were fulfilled. The presence of PTSD was determined by scores on a Brazilian version of the Post-Traumatic Stress Disorder Checklist-Civilian Version (PCL-C). The study results indicated that officers who were considered to have full PTSD also had more negative physical health consequences and much higher rates of lifetime suicidal ideation (37.5%) than those officers who were not considered to have PTSD (5.6%). This finding reinforces the importance of further research into the development of PTSD symptomology in police officers.

Stress can contribute to negative consequences for individual officers at work and for police departments as a whole. It would therefore be beneficial both for police officers as individuals and for the departments to which they belong if there was a better understanding of the individual differences that might influence the development of posttraumatic stress symptoms. In addition, “from a community health perspective, the identification of readily measurable and potentially modifiable psychosocial determinants of PTSD holds considerable promise for targeting early intervention/secondary prevention efforts with a cognitive-behavioural focus” (Cox, MacPherson, Enns, & McWilliams, 2004, p. 106). If we can better understand the development of symptoms,

we can work proactively to bolster resilience to development of symptomology as well as intervene on behalf of those affected by symptomology.

Personality Domains

Personality has been defined by many researchers as a relatively enduring or stable collection of personal characteristics or traits. These traits contribute to consistent behavioral and emotional reactions to one's environment (Costa & McCrae, 1992; Schneider, 2004) although it has also been noted that individuals can transform their patterns of thoughts, feelings and behaviors through therapy and interventions (John & Srivastava, 1999). Thousands of different terms exist in the lexicon to describe personality traits of individuals. In a review article by John and Srivastava (1999), the authors explored the history and development of the descriptive models used in personality research to come to an understanding of how researchers categorize the attributes that make human beings unique.

According to John and Srivastava (1999), the Big Five hierarchical model of personality evolved over several decades of research. Its origins in the English language literature can be traced back to the 1930s when Allport and Odbert, researchers in the lexical tradition, extracted nearly 18,000 terms to describe personality from an unabridged dictionary. They divided these terms into four categories: personality traits, temporary mood states, evaluative judgments of personal conduct or reputation, and physical characteristics or talents. In the 1940s, in an effort to consolidate these terms into a usable set of descriptors, Cattell developed the first multidimensional model of personality structure beginning with a subset of 4500 terms that he reduced to 35

variables and eventually to the 16 Personality Factors questionnaire. This categorization was compromised, however, by the methodological shortcomings stemming from the limitations of data analysis at the time of the research, and by subjective decisions made by the researcher as to which terms were included for analysis (Block, 1995).

In the decades that followed, several other researchers found congruent results for five strong and recurrent personality factors using more advanced factor analytical techniques. In the 1960s, Tupes and Christal reanalyzed data from eight different samples and discovered the Big Five personality domains (as cited in John & Srivastava, 1999). In that same decade, researchers that replicated the finding of five factors included Norman and Borgatta (as cited in John & Srivastava). The results were again replicated in the 1980s by Digman and Takemoto-Chock and by Goldberg in the 1990s (as cited by John & Srivastava). These researchers accumulated evidence that personality variability can be defined, albeit rather broadly, by a mere five domains. These domains overlap and do not have rigid boundaries, as human personality is not entirely definable in such a concrete way.

The five-factor conceptualization, although recognized as valid and utilized by many personality researchers, is not wholly accepted in the field. Block (1995) strongly critiqued the reliance on this conceptualization and pointed to several methodological and logical shortcomings inherent in the lexical and questionnaire traditions. Costa and McCrae (1995) responded to Block's critique and pointed to empirical support of this hierarchical model by several other researchers. Additionally, there is not a consensus among personality researchers as to the label for each factor, although John and Srivastava (1999) contended that this difference in language does not mean an inherent

difference in the domains themselves. Personality research is a relatively young scientific discipline and there is still much left unknown. However, it appears that the hierarchical five-factor model of personality is a robust and valid model as the basis for exploring the complexities of human personality.

This five-factor model of personality domains became the framework for an instrument developed and tested by Costa and McCrae (1992), which measures the five broad dimensions, or domains, of personality. This instrument, the Revised NEO Personality Inventory (NEO-PI-R), measures personality based on the facets encompassed by each larger personality domain. The domains in this model are labeled neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. In Costa and McCrae's definition of each personality domain there are several traits or facets. For example, the personality domain of *neuroticism* includes such facets as anxiety, angry hostility, depression, self-consciousness, impulsiveness and vulnerability. Facets of *extraversion* include warmth, gregariousness, assertiveness, excitement-seeking, and positive emotions. Facets of *openness* include fantasy, aesthetics, feelings, actions, ideas and values. Facets of *agreeableness* include trust, straightforwardness, altruism, compliance, modesty and tender-mindedness. Finally, facets of *conscientiousness* include competence, order, dutifulness, achievement striving, self-discipline and deliberation (Costa & McCrae). According to Grant and Langan-Fox, Jr., "it is unclear whether particular traits act independently, interactively, or redundantly with other traits" (2006, p. 720).

Neuroticism

Neuroticism refers to the tendency to experience negative emotions such as anxiety, tension, self-pity, hostility, impulsivity, self-consciousness, irrational thinking, depression, and low self-esteem (Penley and Tomaka, 2002). In addition, individuals who are more neurotic tend to set very high goals for themselves and underestimate their own performances (Bakker, Van Der Zee, Lewig, & Dollard, 2006). Neuroticism has been negatively correlated with perceived coping ability and positively correlated with perceived stress, total negative emotion and specific emotions such as anxiety, fear, guilt, self-disgust, and shame. Neuroticism has also been positively correlated with emotion-focused coping strategies and emotional awareness and regulation (Penley and Tomaka) and a direct relationship has been shown between neuroticism and the use of avoiding or distracting coping strategies such as denying, wishful thinking, and self-criticism (Bakker, et al). In addition, high neuroticism has been shown to be the main component of burnout while its correlate, work engagement, has been characterized by low neuroticism combined with high extraversion (Langelaan, Bakker, van Doornen, & Schaufeli, 2005).

Extroversion

Extroversion refers to the tendency for an individual to be assertive, upbeat and energetic. Extroverts show a higher need for stimulation (Costa & McCrae, 1992). Extroversion has been shown to be positively correlated with perceived responsibility for and control over a task, with the emotions of happiness and pride, and perceived performance. It has been negatively associated with perceived stress and self-disgust

(Penley & Tomaka, 2002). In addition, extroversion has been linked to an individual focusing on positive aspects of an experience (Bakker, et al, 2006).

While in some theoretical conceptions introversion has been portrayed as the opposite of extroversion, in the discussion of their five factor model, Costa and McCrae (1992) cautioned:

In some respects, introversion should be seen as the absence of extraversion rather than what might be assumed to be its opposite...breaking the mental sets that link such pairs as 'happy—unhappy,' 'friendly—hostile,' and 'outgoing—shy' allows important new insights into personality” (1992, p. 15).

Much of the research on this five-factor model has demonstrated statistically significant results on the domains of neuroticism and extroversion but there is less data available about the other three domains in relation to stress responses and the development of psychopathology (Widiger & Trull, 1992).

Openness

Openness to experience refers to a tendency to be unconventional, curious, creative, and original. Openness to experience has been shown to be positively related to humor as a defense mechanism (Costa and McCrae, 1992; Penley and Tomaka, 2002). Openness has also been negatively correlated with perceived task demand and perceived stress, fear, and shame. It has been positively correlated with perceived coping ability, responsibility for and control over tasks and satisfaction with one's performance in a stressful situation (Penley and Tomaka).

Agreeableness

Agreeableness refers to the tendency to be altruistic, nurturing, caring, forgiving and kind (Bakker, et al, 2006; Costa and McCrae, 1992; Penley and Tomaka, 2002). Agreeableness has been correlated with happiness, coping strategies such as seeking social support and passive endurance (Penley and Tomaka).

Conscientiousness

Conscientiousness refers to the tendency to be organized, self-disciplined, efficient, reliable, dutiful and competent (Costa and McCrae, 1992). Conscientiousness has been negatively correlated with stress and fear, and positively correlated with happiness, hope and pride (Penley and Tomaka, 2002).

Personality and Policing

Several studies have sought to examine whether there exists a *police personality* different from that of the general population. In a 1973 study of neuroticism among police officers and civilians, Fenster and Locke determined that “on the whole, policemen scored lower than nonpolice citizens on the neuroticism scale of the Eysenck Personality Inventory and the Rokeach Dogmatism Scale” (1973, p. 359). Other researchers have cautioned against the use of the term “police personality” as it is difficult to determine whether a set of personality traits can be identified with one particular occupation (Murrell, et al, 1978).

Personality assessment is often part of the hiring process for potential officer candidates and has been used since the late 1960s. Psychological evaluations have

become a routine component of the police officer hiring process in many departments. Certain aspects of personality have been shown to predict performance. Detrick, Chibnall, and Luebbert (2004), using the NEO-PI-R, found that police academy performance could be predicted by facets within the five personality domains. In this cross-sectional study, the researchers administered the 240-item NEO-PI-R to 74 police academy recruits in a large Midwestern metropolitan area. They analyzed scores from the various personality facets and demonstrated that vulnerability, a facet on the neuroticism domain, was the only predictor of non-graduation from the academy. Additionally, higher scores on the self-consciousness facet of the neuroticism domain predicted less absenteeism from the academy. Another finding was that higher scores on the values facet of the openness to experience domain and lower scores on the excitement-seeking facet of the extraversion domain predicted better academic performance. Lower scores on the facets of deliberation on the conscientiousness domain and fantasy on the openness to experience domain in addition to higher scores on the activity facet of the extraversion domain predicted better physical performance among academy recruits. These results suggest that aspects of personality are valid predictors of police academy performance. It would be beneficial for police departments to further research whether personality predicts success for career officers.

Personality Domains, Stress and the Expression of PTSD Symptomology

Several studies have demonstrated that individual scores on various personality domains are related stress levels and the expression of posttraumatic stress symptoms. In a study of 97 undergraduates, Penley and Tomaka (2002) assessed personality before a

stressful task, coping mechanisms utilized during the task and emotional reactions after the task. They found that neuroticism was positively associated with perceived stress and with the emotions of anxiety, fear, guilt, self-disgust, and shame. Neuroticism was also positively associated with emotion-focused coping strategies such as defensive coping and emotional awareness and regulation. Neuroticism was negatively associated with perceived coping ability. Penley and Tomaka also reported that extraversion was positively associated with perceived coping ability, perceived performance on the task and performance satisfaction. On the personality domain of openness, higher scores were associated with both perceived coping ability and performance satisfaction. Openness to experience was negatively associated with perceived stress, fear and self-disgust. The researchers also found a positive correlation between agreeableness and both happiness and the emotion focused coping mechanism of social support seeking. Finally, on the domain of conscientiousness, Penley and Tomaka found that conscientiousness was positively associated with perceived coping ability and responsibility for the task. Conscientiousness was also positively correlated with perceived performance, active coping strategies and the emotions of compassion, happiness, hope and pride.

More recently, Grant and Langan-Fox (2006) looked for combined and interactive effects of personality domains on occupational stress rather than examine the role of each domain individually. Using data collected from 211 managers, the researchers discovered that low neuroticism coupled with high extraversion and high conscientiousness predicted lower stress, less physical ill health and lower job dissatisfaction. It followed that the opposite outcome was discovered for high

neuroticism coupled with low conscientiousness. Additionally, the combination of high neuroticism with low agreeableness tended to predict job dissatisfaction.

Differences in personality appear to relate to the expression of PTSD specifically. Using nationally representative data collected from 3238 people as part of the National Comorbidity Study (Kessler, et al., 1995), Cox, MacPherson, Enns and McWilliams discovered that even after controlling for type of trauma experienced, neuroticism was significantly associated with PTSD among men (Cox, et al., 2004). Another study showed that neuroticism predicted the PTSD symptoms of intrusion and avoidance and that neuroticism combined with less agreeableness predicted hyperarousal symptoms in heart attack survivors (Chung, Berger, Jones & Rudd, 2006). Additionally, “neuroticism has been found to be a predictor of PTSD in accident and burn victims, Vietnam veterans, and college students” (Haisch & Meyers, 2004, p. 225).

Two studies were able to measure personality prior to traumatic experiences to determine if personality characteristics influenced the development and severity of posttraumatic stress symptoms. In the first, researchers obtained neuroticism scores from 1372 pregnant women and assessed PTSD symptoms and negative appraisals of symptoms in 117 of these women who lost their pregnancies (Van den Hout & Engelhard, 2004). The results indicated that neuroticism combined with negative appraisal of symptoms predicted PTSD symptom severity. Additionally, negative appraisal of symptoms predicted PTSD symptom severity independently of neuroticism. In the second study, personality was assessed in 70 students prior to the experiencing of eleven weeks of air attacks in Belgrade, Yugoslavia (Knezevic, Opacic, Savic & Priebe, 2005). Immediately following the attacks and one year later, the students were assessed

for PTSD symptomology of intrusion and avoidance. The researchers found that pre-trauma personality was not correlated with subsequent avoidance scores either immediately following the attacks or one year later. However, they did discover that thirteen percent of the variance of intrusion scores one year after the attacks was predicted by pre-trauma personality. Openness to experience was also a predictor of intrusion one year after the attacks. These opportunistic studies were unique in that the researchers were able to assess pre-trauma personality and PTSD symptoms at relatively stable lengths of time before and after the traumatic experience and because the nature and extent of the trauma were similar for the participants in each study.

Demographic Variables

An inverse relationship between years of duty and occurrence of PTSD symptomology has been demonstrated (Robinson, et al., 1997). In this study of 100 suburban police officers, the researchers found that the officers with eleven or fewer years of service reported more PTSD symptoms. Additionally, an inverse relationship between age and PTSD symptoms has also been demonstrated. O'Brien and Reznik found that officers aged 25-39 years old experienced more severe psychological impairment than older, more experienced officers and that the greatest incidence and severity of the impairment occurred in the first year of duty (as cited in Anshel, et al., 1997). Conversely, Zachar (2004) reported that experienced officers had higher levels of stress related to role ambiguity and physical environment and that experienced officers also used fewer coping resources than police candidates. In this study, 35 experienced police officers working in a suburban department were compared to 62 officer candidates who were undergoing pre-employment psychological screening. It is possible that the

difference in the results of these two studies based on levels of experience is because in the O'Brien and Reznik study, experienced officers still had some exposure to the pressures of police work while in the Zachar study, officer candidates did not yet have such exposure.

It has been demonstrated that race and ethnicity influence the stress that police officers report (He, et al., 2005). The authors found that African-American officers report fewer stressors than white officers. One limitation of this study is that it only examined these two racial categories. It is possible that officers of color may experience racism that contributes to their cumulative stress but this experience may not lead to higher reporting of PTSD symptoms. A meta-analysis of risk factors for PTSD found that race was only a weak predictor, and results varied greatly by population (Brewin, et al., 2000). These authors also cautioned against the predictive value of race as a risk factor because when other variables such as exposure were controlled, the outcome changed.

Military service may serve as a significant variable that mitigates the development of PTSD symptoms. Studies have shown that “the traumas most commonly associated with PTSD are combat exposure and witnessing among men” (Kessler, et al., 1995, p. 1048). Officers who have previously served in the military, especially those who have been in combat, may report more PTSD symptoms than officers who have not served in the military. Exposure to combat serves to increase the amount of potentially traumatic events to which an officer may have been exposed. It is also possible that an officer will report that the trauma that most affects him occurred during military service, police service, or even during childhood. Because the DSM-IV criteria uniquely reflect

symptoms associated with specific memories of and reactions to an event, it matters less when the event occurred than the symptom picture that the event evokes.

Current Study

The experiences of Vietnam veterans brought attention to our lack of understanding of the psychological effects of witnessing horrific travesties. The decades that followed fostered a much better understanding of the psychological sequelae that comprise the expression of posttraumatic stress symptoms. We now understand more of the complexities involved in the development of PTSD. However, as much as the research into PTSD has advanced in the past three decades, more work is needed. The recent resurgence of interest in personality research has impacted some of the more recent PTSD research. It has been demonstrated that personality influences the development and reporting of stress and posttraumatic stress (Chung, et al., 2006; Cox, et al., 2004; Grant & Langan-Fox, 2006; Haisch & Meyers, 2004; Knezevic, et al., 2005; Penley & Tomaka, 2002; Van den Hout & Engelhard, 2004). Individual differences such as age and race have also been shown to impact stress and posttraumatic stress but the size and direction of these effects is controversial (Brewin, et al., 2000; He, et al., 2005; O'Brien & Reznik, as cited in Anshel, et al., 1997; Ozer, et al., 2003; Robinson, et al., 1997; Zachar, 2004). Personality has been shown to be a predictor of police academy performance among police recruits using the revised NEO Personality Inventory (Detrick, Chibnall & Luebbert, 2004) but less is known about the connections between personality and posttraumatic stress symptoms in police officers who have work experience that may expose them to trauma. In light of these gaps in the current research,

I sought to address the question of whether personality and individual differences affect the expression of posttraumatic stress symptomology in male police officers.

It was not the aim of this project to diagnose PTSD in the police officers who participated in this study, but rather to examine if correlations exist between the personality domains of neuroticism, extraversion, openness, agreeableness and conscientiousness and the experiencing of the post traumatic stress symptoms of intrusion, avoidance/numbing and hyperarousal. Based on information from previous studies, I predict that officers will have a “police personality” different from that of the general public. I hypothesize that the experiencing of symptomology will be inversely proportional to scores for neuroticism, and proportional to scores for extraversion, openness to experience, agreeableness and conscientiousness. Furthermore, I expect that there will be differences in the reporting of PTSD symptomology based on years of experience, age, race, and job description.

CHAPTER 3
METHODOLOGY

Recruitment

Through canvassing several departments, I was able to recruit officers from three suburban departments in the Northeastern United States to participate in the study. Participation was offered to all sworn male officers currently on active duty in these three departments. All male officers in these departments received questionnaire packets in their departmental mailboxes that included two copies of an informed consent (Appendix A), a demographic questionnaire, the NEO-Five Factor Inventory, the Davidson Trauma Scale, and an information sheet on where to get help with stress related symptoms, including the individual departments' employee assistance programs and area clinics and hospitals.

Each officer who opted to participate returned one signed consent form in a sealed manila envelope, completed the three survey instruments and returned the other completed materials in a separate sealed manila envelope to locked collection containers by the mailboxes or at the front desk. Officers who declined to participate were asked to seal the packet and return it to the locked container to further insure the confidentiality of

whether an individual had participated. I returned to each department weekly to collect completed and uncompleted packets.

Questionnaire Packet Instruments

Demographic Questionnaire

The 15-item questionnaire that I compiled for this research study includes demographic variables such as age, years of police service, race, ethnicity, marital status, and number of children. Additionally, the questionnaire inquired whether or not the officer has served in the military and if so, if the officer was involved in combat. Other variables include which shift the officer primarily works, how often the officer chooses or is forced to work overtime and how satisfied the officer is with type of work, compensation and supports available (Appendix B).

NEO Five Factor Inventory

Using the NEO Five-Factor Inventory (NEO-FFI), I examined the personality dimensions of neuroticism, extraversion, agreeableness, conscientiousness and openness to experience to determine if certain traits lend themselves to being more or less vulnerable to stress and PTSD symptomology (Costa & McCrae, 1985). The NEO-FFI is a 60-item version of the Revised NEO Personality Inventory (NEO PI-R). Officers indicate on a 5-point scale (i.e. from strongly disagree to strongly agree) their opinion of each statement, (i.e. I am not a worrier). I chose the NEO-FFI over the NEO PI-R because the former is more time efficient to complete while still yielding valuable and relevant information on the five dimensions of personality. Internal consistencies for the NEO-FFI personality dimension are evidenced by Cronbach's α scores of 0.86 for

neuroticism, 0.77 for extraversion, 0.73 for openness, 0.68 for agreeableness, and 0.81 for conscientiousness (Costa & McCrae, 1992).

Davidson Trauma Scale

The Davidson Trauma Scale (DTS) is a 17-item questionnaire that measures the severity and frequency of PTSD symptoms experienced in the past week on a 5-point scale (Davidson, 1996). I chose the DTS both because of its brevity and the ability to score for the different symptom clusters. Officers identified the trauma they felt was most disturbing and indicated whether they had experienced each symptom in the past 7 days (i.e. from “not at all” = 0 to “every day” = 4). Additionally, officers indicate the severity if they had experienced the symptom (i.e. from “not at all distressing” = 0 to “very distressing” = 4). The DTS questions correspond to DSM-IV diagnostic criteria and participant responses can be scored for subscales of intrusion, avoidance/numbing, and hyperarousal. The inclusion of hyperarousal on the DTS is an important distinction from other scales that measure PTSD symptomology as the diagnostic criteria for PTSD has changed with subsequent editions of the DSM and previous editions did not recognize arousal as a criterion (Brewin, Andrews, & Valentine, 2000).

The Davidson Trauma Scale has been tested for validity on such populations as rape victims, hurricane victims, war veterans, and survivors of miscellaneous traumas (Carlson, 1997). Although police officers were not included in the tested validation populations, it can be inferred that the DTS is comprehensive given the range of validation populations. Evidence of internal consistency includes Cronbach’s α coefficients of 0.99 for total score, 0.97 for frequency items, and 0.98 for severity items

(Davidson, et al., 1997). Davidson also reported that “concurrent validity was obtained against the SCID (Structured Clinical Interview for DSM-III-R), with a diagnostic accuracy of 83% at a DTS score of 40. Good convergent and divergent validity was obtained” (1997, p. 153).

Sample

Questionnaire packets were distributed to 109 male officers throughout three suburban police departments. Of these officers, 30 returned completed questionnaire packets. The response rate was 27.52%. Participating officers reported an average of 18.26 years of police experience. The average age was 41.82 years old. Most of the participants were married (83.3%) and had children (86.7%). Overwhelmingly, the officers indicated that they identified solely as white/Caucasian (86.7%) while only three officers (10.0%) reported other racial identities including black/African American and Native American. Most officers did not have prior military experience (86.7%) and of the three officers (10.0%) that reported military experience, none were involved in combat. Most officers reported working first shift (66.7%), followed by second shift (16.7%) and finally, third shift (10.0%).

CHAPTER IV

FINDINGS

Through this research project, I sought to address the following research questions: What is the prevalence of PTSD symptomology of intrusion, avoidance/numbing and hyperarousal in male police officers? Is there a “police personality” different from that of the general population? Are certain personality domains associated with the development of PTSD symptomology? What individual differences are associated with the frequency and severity of PTSD symptomology in male police officers? Does excessive overtime or less job satisfaction, compensation, or support satisfaction correlate with symptomology? Based on previous research, I expected to find that as a group, officers would have a distinct personality from the general population. Furthermore, I expected high levels of neuroticism and low levels of extraversion, openness to experience, agreeableness and conscientiousness to correlate with more PTSD symptomology.

The responses on the demographics questionnaire indicated that forty percent of participants held the position of patrol officer. Of the remaining officers, most reported

that they were detectives, sergeants, captains or chiefs (53.3%) while the remainder left the question of job title blank (6.7%). Most officers indicated that they did not have prior military experience (86.7%) and of the three officers (10.0%) that reported military experience, none were involved in combat. This finding precludes the ability to look at differences in PTSD symptomology between officers with and without combat military experience. The majority of officers reported working first shift (66.7%), followed by second shift (16.7%) and finally, third shift (10.0%). The results from the questions of how often officers choose to work overtime or are forced to work overtime are displayed in Table 1.

Table 1
Self-reports of Frequency of Choice and Forced Overtime

	Overtime: Choice		Overtime: Forced	
	n	%	n	%
Never	3	10.0	9	30.0
1-11 times/year	5	16.7	13	43.3
1-3 times/month	5	16.7	2	6.7
1+ times/week	16	53.3	6	20.0
Total	29	96.7	30	100.0

These findings should be considered with caution as two respondents wrote that their departments used a system of compensatory time rather than overtime. However, the majority of officers (70%) reported choosing to work overtime one or more times a month. Fewer officers (26.7%) reported forced overtime one or more times a month. Overwhelmingly, every officer reported being either somewhat satisfied (50.0%) or very

satisfied (50.0%) with their jobs overall. These results along with compensation and support satisfaction ratings are displayed in Table 2.

Table 2

Satisfaction Ratings on a Likert-type Scale for Three Categories of Satisfaction

	Overall Job Satisfaction		Compensation Satisfaction		Supports Satisfaction	
	n	%	n	%	n	%
Very Unsatisfied	0	0.0	1	3.3	0	0.0
Somewhat Unsatisfied	0	0.0	3	10.0	2	6.7
Neutral	0	0.0	4	13.3	9	30.0
Somewhat Satisfied	15	50.0	13	43.3	11	36.7
Very Satisfied	15	50.0	9	30.0	8	26.7
Total	30	100.0	30	100.0	30	100.0

The majority of officers (73.3%) reported being either somewhat satisfied or very satisfied with the compensation they receive. Similarly, most officers (63.4%) reported being either somewhat satisfied or very satisfied with the supports available to them.

I hand-scored the NEO Five-Factor Inventory (NEO-FFI) and the Davidson Trauma Scale (DTS) for each study participant. For the NEO-FFI, I converted the raw scores for each personality domain of neuroticism, extroversion, openness, agreeableness, and conscientiousness to t-scores, following the scoring instructions in the NEO-FFI manual (Costa and McCrae, 1992). These t-scores corresponded with five nominal categories ranging from very low to very high for each personality domain (Table 3). On the neuroticism domain, nineteen of the officers' scores were considered very low or low,

seven were considered average and only four scores were high or very high. On the extraversion domain, twelve of the officers' scores fell into the average categorization and thirteen of the scores corresponded to either high or very high. Only five scores fell into the categories of low or very low. On the openness to experience domain, eleven of the scores fell into the average category while fifteen of the scores fell into the very low or low categories. Only four scores were in the high or very high categories. On the agreeableness domain, ten scores were very low or low categories, six were in the average categories and fourteen were in the high or very high categories. Finally, on the conscientiousness domain, ten of the scores aligned with the very low or low categories, eight with the average category and twelve with the high or very high categories.

Table 3
Summary of Officers' Scores on the Five Domains of the NEO-FFI

	Very Low		Low		Average		High		Very High	
	n	%	n	%	n	%	n	%	n	%
Neuroticism	9	30.0	10	33.3	7	23.3	4	13.3	0	0.0
Extraversion	0	0.0	5	16.7	12	40.0	10	33.3	3	10.0
Openness	5	16.7	10	33.3	11	36.7	4	13.3	0	0.0
Agreeableness	2	6.7	8	26.7	6	20.0	10	33.3	4	13.3
Conscientiousness	4	13.3	6	20.0	8	26.7	8	26.7	4	13.3

The police officers' NEO-FFI scores on each domain were then compared to normative data provided by Costa and McCrae (1992) to determine if police personalities differ from that of the general population. There were significant differences on the

domains of neuroticism ($t(29)=-5.021$, $p=.000$, two-tailed), extraversion ($t(29)=2.895$, $p=.007$, two-tailed) and openness to experience ($t(29)=-3.207$, $p=.003$, two-tailed) but not on agreeableness or conscientiousness. Officers' scores were lower on the neuroticism domain, higher on the extraversion domain, and lower on the openness to experience domain compared to normative data. There were no statistically significant differences between officer scores and normative data on both the agreeableness and conscientiousness domains. As a group, officers' mean score on the agreeableness domain (49.87) were only slightly less than the normative data (50.0). Results on the conscientiousness domain were the same as the agreeableness domain, with the mean score for officers (49.87) slightly less than the normative data (50.0).

The DTS was scored in accordance with the instructions in the DTS manual (Davidson, 1996). In completing the DTS, respondents began by indicating the trauma that they considered to be most disturbing to them. The open-ended statement "please indicate the trauma that is most disturbing to you" revealed several interesting themes (Davidson, 1996). An example response from one officer, "dealing with parents after the death of a child (motor vehicle accident, suicide, etc.)" reveals the complexity of these multifaceted responses. This example response includes several elements: children, fatality, motor vehicle accident, suicide, and informing parents. Most of the officers' responses contained similar complexities. In the following analysis, officers' responses were dissected to extract themes. By parsing the sentences into themes, many of the responses were counted more than once depending on the number of themes present in each individual officer's response.

The trauma most disturbing to the majority of study participants involved fatalities or serious injuries of other persons (66.7%). The second most frequent response from officers referenced infants, children and teenagers (46.7%). Officers also reported involvement of weapons (10.0%), serious threat to personal safety (6.7%), and knowing a victim (3.3%) as other work-related traumas. Additionally, personal traumas were also considered by officers. Four participants (13.3%) reported traumatic events in their personal lives. Two reported deaths of family members (6.7%) and two reported distress resulting from interpersonal relationships (6.7%).

On the next component of the DTS, officers indicated on a scale from zero to four the frequency and severity of 17 posttraumatic stress disorder symptoms. I tallied those scores to determine scores for six subscales of the DTS: intrusion frequency, intrusion severity, avoidance frequency, avoidance severity, hyperarousal frequency and hyperarousal severity. The scores on these six subscales add up to a total score on the DTS. To determine whether there were differences on the frequency and severity subscale scores and total score of the DTS based on scores for the five personality domains of neuroticism, extraversion, openness to experience, agreeableness and conscientiousness on the NEO-FFI, it was necessary to collapse the NEO-FFI response range from five groups (i.e. very low, low, average, high and very high) to three by combining the very low and low groups as well as the very high and high groups due to the small sample size. One-way analyses of variance were run to determine if there were significant differences in subscale scores on the DTS by the five personality domains. There were no significant differences in five of the six subscale scores on the DTS based on scores for neuroticism, extraversion, openness to experience or agreeableness. There

was a significant difference for the subscale of intrusion severity by conscientiousness ($F(2,26)=4.339, p=.024$). A Bonferroni post-hoc test showed that the significant difference was between the very low/low group (mean=5) and the average group (mean=0.88). This suggests that as a group, officers who scored lower in the conscientiousness domain reported more severity of intrusion symptoms than officers whose scores for conscientiousness fell into the average category. There was also a significant difference in the DTS total score by the conscientiousness domain ($F(2,26)=3.705, p=.038$). However, the Bonferroni post-hoc analysis did not show any significant differences between the groups.

I was also interested to see if there were differences in the DTS scores based on years of experience. As was done in a previous study by Robinson, Sigman and Wilson (1997), I divided the respondents into two categories, those with more than eleven years of experience and those with fewer than eleven years of experience. T-tests determined that for five of the six subscales of the DTS, there were no statistically significant differences. However, there was a significant difference in mean scores on the hyperarousal frequency subscale between the two groups ($t(22.59)=-2.264, p=.038$, two-tailed). Officers who worked eleven or fewer years had a lower mean (1.0) than those who had worked more than eleven years (3.58). As a group, officers with more than eleven years of experience reported more frequent hyperarousal symptoms than officers with eleven or fewer years of experience. Although the differences were not found to be statistically significant, officers with more than eleven years of experience reported more symptomology on every symptom subscale and on the DTS total score than officers with eleven or fewer years of experience (Table 4). These findings contradict the results of

Robinson, Sigman and Wilson whose study indicated that officers who had more than eleven years of experience reported fewer PTSD symptoms.

Table 4

Summary of Mean Scores on the Davidson Trauma Scale Subscales by Years of Experience

Experience	Mean		Standard Deviation	
	1-11 years n = 9	< 11 years n = 19	1-11 years n = 9	< 11 years n = 19
Intrusion Frequency	2.11	3.11	3.257	4.370
Intrusion Severity	2.22	2.53	3.768	3.611
Avoidance Frequency	0.44	2.32	1.333	4.831
Avoidance Severity	0.78	2.58	2.333	5.601
Hyperarousal Frequency	1.00	3.58	1.225	4.635
Hyperarousal Severity	1.33	1.79	2.236	2.016
DTS total score	7.89	15.89	11.677	21.931

I also divided the officers into two groups depending on their job titles. One group contained officers who were on patrol and the other group contained all other non-patrol job descriptions (i.e. detective, sergeant, captain, and chief). These two groups differed significantly on their mean scores for the avoidance/numbing subscales of the DTS. On the subscale of avoidance severity, the patrol group had a lower mean (0.17) than the non-patrol group (3.60). This difference was statistically significant ($t(14.301) = -2.126, p=.051$, two-tailed). On the subscale of avoidance frequency, the patrol group also had a lower mean (0.08) than the non-patrol group (3.13) and this difference was

significant ($t(14.105)=-2.235, p=0.042$, two-tailed). These results suggest that patrol officers experience less frequent and severe avoidance symptoms than non-patrol officers. Interestingly, patrol officers reported less frequency and severity of symptoms on every subscale of the DTS and on the total score. This finding is congruent with the finding that less experienced officers reported fewer symptoms than more experienced officers (Table 5). It is reasonable to assume, given the hierarchical structure of departments, that those officers with more experience are also likely to be non-patrol officers and this could account for the similar results.

Table 5

Summary of Mean Scores on the Davidson Trauma Scale Subscales by Job Description

Job Description	Mean		Standard Deviation	
	Patrol n = 12	Non-Patrol n = 15	Patrol n = 12	Non-Patrol n = 15
Intrusion Frequency	1.67	3.67	2.902	4.746
Intrusion Severity	1.42	3.27	2.937	4.061
Avoidance Frequency	0.08	3.13	0.289	5.276
Avoidance Severity	0.17	3.60	0.577	6.220
Hyperarousal Frequency	1.83	3.53	3.157	4.704
Hyperarousal Severity	0.92	2.27	1.379	2.404
DTS total score	6.08	14.79	9.376	16.049

Note. Non-patrol job descriptions include detective, sergeant, captain and chief.

CHAPTER V

DISCUSSION AND CONCLUSIONS

Overview

Through this research, I hoped to determine whether correlations exist between the personality domains of neuroticism, extraversion, openness, agreeableness and conscientiousness, and the experiencing of the post traumatic stress symptoms of intrusion, avoidance/numbing and hyperarousal. I expected that excessive overtime and less job satisfaction, compensation, or support satisfaction would correlate with more reported PTSD symptomology. Based on information from previous studies, I predicted that officers would have a “police personality” different from that of the general public. I hypothesized that the experiencing of symptomology would be inversely proportional to scores for neuroticism, and proportional to scores for extraversion, openness to experience, agreeableness and conscientiousness. Furthermore, I expected that there would be differences in the reporting of PTSD symptomology based on years of experience, age, race, military experience, and job description.

Interpretations and Implications

Combat Military Experience, Race, Overtime and Satisfaction

The composition of the study sample precluded some of the comparisons I had intended to examine. For example, none of the officers had combat military experience, a factor I thought would be important to consider when looking at symptoms related to posttraumatic stress. Additionally, there was not enough diversity in the sample to consider race as a variable so no conclusions can be drawn based on this study about what relationship, if any, exists between race and symptomology. Furthermore, I had intended to examine whether excessive overtime shifts, job satisfaction, satisfaction with pay and benefits and satisfaction with available supports were associated with PTSD symptomology. The majority of officers chose to work overtime and most were not forced to extra shifts more than once per month. Additionally, officers were overwhelmingly satisfied with their jobs, compensation and available supports. Due to these findings, no further analyses were conducted on these variables.

Police Personality

Police officers' responses were distinct from the general population on three of the five personality domains captured by the NEO-FFI: neuroticism, extraversion and openness to experience. Officers' responses indicated that they are less neurotic, more extroverted and less open to experience than the sample that generated the normative data. Officers' responses on the domains of agreeableness and conscientiousness were nearly identical to the normative data. The finding that police officers as a group are less

neurotic is congruent with the research Fenster and Locke (1973) although the definition of neuroticism may be different in the earlier study. Fenster and Locke administered the Eysenck Personality Inventory to police officers and civilians and found that the police were less neurotic than the civilian group.

This finding can be interpreted in a number of ways. It is possible that police work attracts people with certain personality characteristics or that these characteristics are specifically sought by departments in the hiring process. Another possibility is that the nature of the work itself or a kind of assimilation into an existing police culture could work to shift personality over time as officers are exposed to the stressors and rewards of their occupation. Personality changes could also be a direct result of experiencing traumatic events. It is impossible to make this distinction without comparing baseline personality measurements taken before entering the police force with measurements at various years of experience.

Furthermore, Murrell, Lester and Arcuri (1978) cautioned against the term *police personality* because they stipulated that a particular set of personality traits that applies to police officers as a group may not actually be unique to police officers. It is entirely possible that other professions attract those with a similar personality composition. The combination of low neuroticism, high extroversion and low openness to experience may not be exclusive to police officers but rather could reflect personality attributes of other vocations as well.

Detrick, Chibnall and Luebbert (2004) demonstrated that personality attributes can predict police recruit performance at the police academy. Perhaps personality testing is underutilized as a means of understanding the psychological well-being of officers.

Some research has pointed to evidence that personality changes over time in police officers may contribute to negative coping skills such as alcohol abuse and dependency (Beutler, Nussbaum & Meredith, 1988). This research demonstrated that personality changes after only four years of experience were associated with an increased vulnerability for alcohol abuse. In that study, only eleven officers were available to be reassessed at the four year mark and this small sample size begs caution in interpreting the results. However, it points to the strong potential for the nature of police work to change a person's personality. As Zachar (2004) pointed out, most departments hold the belief that once an officer candidate is screened initially and found to be psychologically fit for duty, emotional well-being is not commonly addressed until after a traumatic event. This doesn't allow for departments to develop the appropriate preventative treatments or early interventions for officers who may be in need of therapeutic services.

There may even be personality attributes, coping strategies or commonly held beliefs among officers that prevent them from seeking services. Police officers often have to project an image of toughness, authority and strength without displaying emotion. A police culture that reinforces this belief could foster an environment of avoidance coping rather than seeking out treatment, support and information. This may also foster guardedness and inhibit officers from seeking help if they are suffering with symptomology. As clinical social workers, it is important to understand and recognize the barriers, systemic and otherwise, to providing appropriate treatment if we are to better serve this community.

Self-Identified Traumas

The themes that police officers in this study identified as the traumas most disturbing to them included: responding to fatalities, involvement of children, involvement of weapons, direct threats to personal safety, knowing a victim and non-work related personal experiences. These were similar to circumstances found to be significant in other studies. He, Zhao, and Ren (2005) considered making a violent arrest, being involved in a shooting, responding to a chemical spill, encountering a bloody crime scene, personally knowing the victim of a crime, being involved in a hostage situation, attending a police funeral, and being stuck by a hypodermic needle or otherwise being exposed to blood or bodily fluids to be sources of stress for officers. Similarly, O'Brien and Reznik reported that significant stressors for officers involved children, dealing with fatalities, and being threatened by a weapon (as cited in Anshel, et al., 1997). Additionally, Robinson, Sigman and Wilson (1997) identified duty-related stressors that they labeled as death encounter, death exposure, physical threat, emergency response, pursuit activity, deadly force, and situational threats. Several of the themes extracted in this research appear to match themes from previous research. However, this should be considered with caution because there is a great deal of subjectivity on the part of each researcher in categorizing stressful or traumatic experiences.

This research gives us additional insight into the type of events that officers find to be traumatic. These results suggest that particular attention should be focused on exposure to fatalities and the involvement of children as these were the most identified by officers. The implication of this finding is that services may need to be directed towards addressing these particular types of encounters, since police officers will encounter

fatalities and incidents involving children for the duration of their careers. Perhaps preventative measures such as training to increase preparedness would be beneficial. As exposure to fatalities and the involvement of children were overwhelmingly common responses, particular attention should be paid following these types of incidents to ensure that officers' psychological needs are being adequately met.

Comment [DMH1]: Is this right?

PTSD Symptomology

Lower conscientiousness was found to be related to more reported severity of intrusion symptoms and a higher Davidson Trauma Scale total score. There is not as much research on this personality domain as for neuroticism, extraversion or openness to experience so this finding may contribute to the research on conscientiousness. In this study no other significant differences were found on symptomology expression as it correlates to personality. Based on recent research into the association between personality and symptomology (Chung, et al., 2006; Cox, et al., 2004; Grant & Langan-Fox, 2006; Haisch & Meyers, 2004; Penley & Tomaka, 2002; Van den Hout & Engelhard, 2004), I had expected neuroticism to be a particularly salient personality domain in the expression of symptoms. One of these studies demonstrated that neuroticism was associated with PTSD among men even after controlling for type of trauma (Cox, et al., 2004). Perhaps a larger sample size would have yielded a greater number of significant results in this analysis.

Some trends around symptomology that were not found to be significant might have been using a larger sample size. The finding that more symptomology was reported by more experienced officers who were no longer on patrol was counter to previous

research. Officers with more than eleven years of experience, as a group, reported more symptoms on every subscale of the Davidson Trauma Scale than those with fewer than eleven years of experience. This is the opposite of what was found by Robinson, et al. (1997), whose study had a larger sample size of 100 officers. In her study, PTSD symptomology was assessed using the revised Impact of Event Scale. This difference in measurement could account for the difference in findings. However, another interesting difference between the two studies is that all of the officers in Robinson, et al., were patrol officers. Perhaps the difference in results could be attributed to the possibility that many of the experienced officers in the current study are less likely to be on patrol. Another possible interpretation is that experienced officers had greater exposure to traumatic experiences simply as a result of being on the job longer and having access to more disturbing memories of events than inexperienced officers.

The finding that officers with more years of experience and officers who are not on patrol reported more posttraumatic stress symptomology than less experienced officers and those on patrol has several implications. It may point to a cumulative effect of trauma exposure over the course of an officer's career. Clearly, years of service and job type do not protect officers from experiencing symptomology. Another interpretation is that those officers who are currently on patrol may have developed a way to compartmentalize their experiences in order to function better in their job. Necessarily, as a condition of being on patrol, these officers continue to encounter events that may be traumatic. It might be an effective coping strategy for officers to suppress their reactions to past traumatic events in order to continue in their current job capacities. As clinical

social workers, recognizing these trends is important in developing strategies to assist officers.

Limitations

Urban Versus Suburban Departments

I initially identified three urban police departments in the Northeast United States to begin recruitment for this study. Urban departments were selected to increase the likelihood that participating officers had been exposed to traumatic events. The reasoning behind this choice was the assumption that urban departments would encounter more violent crime than suburban departments. Three departments were selected to provide a geographic cross-section to identify any factors that may be unique to one city or one department. The three urban departments were comparable in terms of population, area, demographics, and crime type as well as crimes per capita. Ultimately, these departments declined to participate.

Reluctance on behalf of these departments to participate may have been a result of wanting to protect the officers from disclosure of personal mental health information that could be viewed in a potentially negative or stigmatizing way. It is necessarily a delicate process to request disclosure of traumatic experiences from those who are employed in a profession that requires the projection of strength and power. It is also reasonable to postulate that the potential benefits of participation did not outweigh the risks to individual officers and to departments as a whole. Other potential reasons these larger urban departments declined to participate included that officers might request overtime for completion of questionnaire packets although participation was completely voluntary

and confidential. Due to these difficulties in recruitment, I expanded the scope of this project to include suburban departments. However, traumatic experiences were ultimately self-selected, therefore, it seems reasonable to conclude that despite differences in call volume or call type, suburban and urban police work both carry the potential for the development of symptomology for officers.

The inclusion of smaller, suburban departments may have affected the findings of the study, particularly in regards to the question of overtime on the demographics questionnaire. Although the majority of officers responded to this question, two officers indicated that their departments do not offer or mandate overtime shifts but rather use a system of compensatory time.

General Limitations

There are several limitations to this research study. First, the small number of participants (N=30) make it difficult to generalize the results to the police population as a whole. It is possible that officers were reluctant to participate due to the sensitive nature of the personal information requested or due to the length of the study materials, which required approximately 30 minutes to complete. Additionally, only males were recruited for this study as policing remains an occupation dominated by men. Despite the gender imbalance, the research would be more representative of police officers in general if gender was taken into account.

The cross-sectional design of this study, while useful in identifying associations or correlations between variables, does not allow for determining causation. A longitudinal study, which measures the same variables in the same group of people at

different points in time, would be more useful in identifying determinants of the development of PTSD in police officers. It might be particularly valuable if officers filled out measures that determined how occupational stress affects them at various points in their careers, including at the point of recruitment to allow for “baseline” datasets that could be compared to responses on the same measures after years of service. Likewise, one obvious limitation of the current study design is that personality domains were not measured prior to the experiencing of a stressful event. It is impossible to know whether the personality characteristics of officers have changed due to exposure to traumatic events.

There may be research biases stemming from the fact that my spouse and other family members are or have been employed as police officers. Being a part of these interpersonal relationships certainly introduced some bias into my conceptualization of the research questions and results.

Additionally, there could be retrospective biases. In this study, the Davidson Trauma Scale required that respondents to determine the trauma that they were most affected by. There is no timeframe indicated for when this self-selected trauma occurred although the self-reporting on symptoms required officers to reflect on symptoms experienced in the past week. This relatively short timeframe for the experiencing of symptoms may have led to an underreporting of PTSD symptomology if officers did not feel they had experienced symptoms in the past seven days, but nonetheless had experienced symptoms. Indeed, one participant circled the phrase “in the past seven days” and left the write-in space blank while another simply wrote “nothing I have considered in the past week” as his response to the trauma he found most disturbing.

These responses seem to indicate that perhaps the officers had not experienced symptoms in the past week, but did experience symptoms at some point in their careers related to exposure to trauma.

Future Directions

Despite these limitations, this research found that relationships did exist between some personality domains and posttraumatic stress symptoms of intrusion, avoidance and hyperarousal. Collectively, police personality did differ from normative data. Trends emerged with respect to the types of event that officers considered traumatic. Differences in frequency and severity of symptoms were found to be related to job type and years of experience. The current study uncovered several avenues for further investigation into the correlates of personality and other individual differences in the expression of PTSD symptomology. A more sophisticated study with a cross-sectional design of a large number of officers may yield results that could ultimately allow for a large scale longitudinal study to garner a better understanding of changes in personality and PTSD symptomology in police officers over time. Baseline measurements during the hiring process and subsequent retests through officers' career, perhaps administered internally as a condition of employment, would give us a more accurate depiction from which to draw conclusions.

A clearer understanding of these issues could foster more support for parity between departmental policies regarding officers' physical and mental health. Police departments face the immense challenge of managing limited resources and might benefit from clear and concise guidance for mental health policies. This is an area of tremendous opportunity for future research that could help us to understand whether the system is

sufficiently handling the mental health needs of police officers, especially in light of how wholly adequately physical ailments are handled.

As clinical social workers, we must be responsive to the needs of officers who are struggling with posttraumatic stress symptoms and be sensitive to the impact of the work environment and intrapersonal constrictions on seeking and accessing services. Consequently, we should aim to understand the influence of police culture and personality on mental health care delivery as well as on the specific development of PTSD symptomology.

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Appendix A
Informed Consent

Dear Participant,

My name is Megan Myers and I am a graduate student at Smith College School for Social Work pursuing a Master's degree in Social Work. I am conducting a study on the factors that influence stress level in police officers. The purpose of this research is to identify factors that influence stress so that we may better respond to officers' symptoms. The data collected will be used towards the completion of my MSW thesis and possible presentation and publication. Participation in this research is entirely voluntary.

To participate in this study, you must be a male police officer currently employed with a department and on active duty. Participants are asked to sign and return this consent form and complete a questionnaire packet that will take no longer than 30 minutes. Please complete the packet, seal it in the envelope provided, and return it to the locked box within one week. These surveys will ask about your own experience with stress, activities you participate in, and some demographic information such as age. Please do not put your name on any of the questionnaire packet. The packet was distributed either to your mailbox (or during roll call) and can be returned to the locked box by the mailboxes (or at the front desk).

If you choose not to participate, please seal the packet in the envelope provided and return the uncompleted packet to the box. This will ensure that no one other than me will be able to tell who has participated.

The possible risks associated with this research are that you may experience stress around recalling a particularly difficult or traumatic event that you have witnessed or

been a part of in the past. Contact information for professionals equipped to help you with this stress is provided as a separate sheet that you can keep for your reference.

If you decide to participate in this study, you will be contributing to a body of research on police work and stress. The ultimate goal of this research is to reduce stress in your work environment when possible and to address current stressors and reactions to that stress. It is my hope that through this research, the psychological well-being of officers will ultimately be enhanced. There is no monetary compensation for participation in this study.

The questionnaires that study participants will fill out are coded with numbers so that no names need to be used. I will do everything in my power to keep your responses confidential. Three people will be able to access the original data; myself, a research advisor, and a data analyst. In the case of potential publication, the data set as a whole will be used and any individual case examples will be thoroughly disguised. All questionnaires and consent forms will be kept separate and locked for a period of three years as required by Federal guidelines. All questionnaires and consent forms will be destroyed when no longer needed.

Participation in this study is voluntary. In addition, you may refuse to answer any question in the packet. You may choose to withdraw from this study at any time. If you decide you would like to withdraw from the study after completing and submitting the questionnaire packet, please contact me by April 15, 2007. I can be reached at mmyers2@email.smith.edu if you have any additional questions or wish to withdraw your participation.

YOUR SIGNATURE INDICATES THAT YOU HAVE READ AND UNDERSTAND THE ABOVE INFORMATION AND THAT YOU HAVE HAD THE OPPORTUNITY TO ASK QUESTIONS ABOUT THE STUDY, YOUR PARTICIPATION, AND YOUR RIGHTS AND THAT YOU AGREE TO PARTICIPATE IN THE STUDY.

Please sign here

Date

Print name

KEEP ONE COPY OF THIS INFORMED CONSENT FOR YOUR RECORDS

APPENDIX B
Recruitment Letter

Dear Officer,

Thank you for looking over this packet. I am a graduate student in social work conducting a study on stress and police work. I am looking for the study packet to be distributed to every male officer in the _____ Police Department. This study is completely voluntary and confidential.

Enclosed in the study packet are 2 copies of an informed consent. This outlines the risks and benefits of participation in the study. The Human Subjects Review Committee requires that participating officers sign and return one copy to the locked collection container (in one sealed manila envelope) and keep the other copy for their records. I am the only person who will have access to these and will keep them secured in a locked filing cabinet that only I can access.

There are 3 questionnaires in the study packet: NEO-FFI, Demographic Questionnaire and Davidson Trauma Scale. These are coded with numbers so that no names need to appear on any of the questionnaires. Participants will then seal their responses in the second manila envelope. Also, officers may choose not to answer any question. The completed questionnaires will be stored securely and separately from consent forms. This is to further protect officers' identities.

Finally, the packet contains a sheet with contact information for officers on where to get help if they are experiencing stress related symptoms.

The study is completely voluntary and confidential. The 2 manila envelopes should be returned to the locked collection container (which I will provide) whether or not an officer participates. This is to further ensure that only I will know whether an individual has participated.

Thank you,

Megan Myers

APPENDIX C

Demographic Questionnaire

1. What is your age? _____
2. What is your gender? Male Female
3. What is your race/ethnicity? Please choose all that apply:
White/Caucasian Black/African-American Hispanic/Latino
Asian/Pacific Islander Native American Other
4. If you chose more than one racial/ethnic category, which do you most identify as?
5. How many years have you worked as a police officer? _____
6. What is your current job title? _____
7. Did you ever serve in the military? Yes No
 - a. If you served in the military, for how many years? _____
 - b. If you served in the military, were you involved in combat? Yes No
8. What is your marital status? Single Married Divorced Separated
9. Do you have children? Yes No a. If yes, how many? _____
10. What shift do you work? 1st (8 am-4pm) 2nd (4pm-12am) 3rd (12 am-8am)
11. How often are you forced to work overtime?
1+ per week 1-3 times per month 1-11 times per year never
12. How often do you choose to work overtime?
1+ per week 1-3 times per month 1-11 times per year never
13. Overall, please rate your level of job satisfaction:
Very Satisfied Somewhat Satisfied Neutral Somewhat Unsatisfied Very Unsatisfied

14. Please rate your level of satisfaction with your compensation (pay and benefits):

Very Satisfied	Somewhat Satisfied	Neutral	Somewhat Unsatisfied	Very Unsatisfied
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15. Please rate your level of satisfaction with the supports available to you:

Very Satisfied	Somewhat Satisfied	Neutral	Somewhat Unsatisfied	Very Unsatisfied
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APPENDIX D

Human Subject Review Committee Approval Letter

February 12, 2007

Megan Myers
425 Bushy Hill Road
Simsbury, CT 06070

Dear Megan,

Your final revisions have been reviewed and all is now in order. We are happy to give final approval to your project with the understanding that you will be sending us copies of the permission letters from the Police Departments and that you will not start recruiting until these letters are obtained.

Please note the following requirements:

Consent Forms: All subjects should be given a copy of the consent form.

Maintaining Data: You must retain signed consent documents for at least three (3) years past completion of the research activity.

In addition, these requirements may also be applicable:

Amendments: If you wish to change any aspect of the study (such as design, procedures, consent forms or subject population), please submit these changes to the Committee.

Renewal: You are required to apply for renewal of approval every year for as long as the study is active.

Completion: You are required to notify the Chair of the Human Subjects Review Committee when your study is completed (data collection finished). This requirement is met by completion of the thesis project during the Third Summer.

Good luck with this very interesting project. I hope many of the officers decide to participate!

Sincerely,

Ann Hartman, D.S.W.
Chair, Human Subjects Review Committee

Cc: Mike Murphy, Research Advisor

