MENTAL TOUGHNESS TRAINING FOR POLICE OFFICERS:
THE IMPACT OF A STRESS INOCULATION PROGRAM ON POLICE STRESS

Eric S. Rosmith, M.S.

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APPROVED:

C. Edward Watkins Jr., Committee Chair
Timothy M. Lane, Committee Member
Pamela Flint, Committee Member
Vicki L. Campbell, Chair of the Department of Psychology
Mark Wardell, Dean of the Toulouse Graduate School
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This study examined the impact that a stress inoculation training (SIT) program had on a small-sized city police department in the southwestern U.S. Specifically, the aim of this study was to investigate how a SIT program impacted police officer self-reported levels of organizational stress, operational stress, perceived life stress, and mood states. All 24 participants were recruited from a population of 132 sworn, active duty police officers and were pre-tested through administration of a questionnaire packet containing a host of measures related to demographics, organizational stressors, operational stressors, general life stressors, and mood states. Participants were then randomly assigned to one of the following treatment conditions: (1) delayed training; (2) SIT program; and (3) SIT plus booster program. On completion of the SIT program, members of each of the treatment conditions were re-assessed through the administration of the aforementioned questionnaire packet. Subsequent to conducting the booster sessions, participants from each treatment condition took part in a second, and final, follow-up assessment. Results suggested that organizational stress was decreased for participants in the SIT program, particularly at follow-up. Results also suggested that energy (i.e., vigor) was increased for participants in the SIT plus booster program at both post-test and follow-up. Furthermore, results suggested that there was a statistically significant decrease in perceived life stress at both post-test and follow-up, yet statistically analysis was unable to tease out which group contributed to this significance. These findings support the efficacy of an SIT program in assisting police officers combat organizational stressors.
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ACKNOWLEDGEMENTS

A great deal of appreciated is extended to the law enforcement officers who volunteered their time to participated in this study.
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CHAPTER 1
INTRODUCTION

Stress in policing, as well as its impacts upon both the police officer and police agencies, has been the subject of a vast amount of literature in both academia and the popular press throughout the past four decades (Abdollahi, 2002; Oliver & Meier, 2009). In fact, for those individuals with an interest in the field of law enforcement psychology, no other area of inquiry has been investigated as much as the nature of stress in policing (Blau, 1994; Reese, 1986; Reiser, 1974). Early exploration of this field is replete with the characterization that police work is inherently stressful and as such is one of the world’s most stressful professions (Abdollahi, 2002; Anshel, 2000; Axelbred & Valle, 1978; Beehr, Johnson, & Nieva, 1995; Brown & Campbell, 1994; Dantzer, 1987; Fennell, 1981; Selye, 1978; Somodavilla, 1978). Indeed, Hans Selye, an endocrinologist who is credited with pioneering the field of biological stress, asserted that police work “ranks as one of the most hazardous occupations, even exceeding the formidable stresses and strains of air traffic control” (Selye, 1978, p. 7). Others have echoed this statement, proclaiming that police work “has been identified as the most psychologically dangerous job in the world” (Axelbred & Valle, 1978, p. 3) and that it is “the most dangerous job in the world emotionally” (Fennell, 1981, p. 170). Furthermore, the picture of a police officer had been painted as an individual faced with a level of “stress and pressure unequalled by any other occupation” (Somodavilla, 1978, p. 21).

This is an intuitively alluring notion, particularly in light of the highly stylized and stereotypical images from Hollywood films, television (TV) programs, and popular fiction writers such as Joseph Wambaugh and James Patterson that portray police officers as being exposed to only the most squalid of life’s conditions, bombarded with a continuous stream of...
repugnant and/or brutal individuals, and having to dodge a barrage of bullets at every turn.

Although these clichéd views of police work may be accurate to a limited extent, the vast majority of police officers do not customarily face these types of situations, particularly police officers from more suburban and/or rural police agencies, or for those police officers assigned to administrative duties. With this in mind, more recent research suggests that police work is not at all inherently stressful (Abdollahi, 2002; Anson & Bloom, 1998; Bar-On, Brown, Kirkcaldy, & Thome, 2000; Brown & Campbell, 1990; Brown & Campbell, 1994; Gulle, Tredoux, & Foster, 1998; Hart, Wearing, & Headley, 1995; Lawrence, 1984; Lefkowitz, 1975; Malloy & Mays, 1984; Shane, 2010; Terry, 1981), that police officers do not suffer from stress in as extreme a form as conventionally believed (Hart et al., 1995; Kirkcaldy, Cooper, & Ruffalo, 1999; Shane, 2010), and that police officers are no more stressed than individuals from any other occupational category (French, 1975; Kroes, Margolis, & Hurrell, 1974; Shane, 2010).

Despite this schism, there does appear to be a consensus that police work is a high stress and high strain occupation (Abdollahi, 2002; Alkus & Padesky, 1983; Anderson, Swenson, & Clay, 1995; Anshel, 2000; Brown & Campbell, 1994; Ellison, 2004; Gershon, Barocas, Canton, Li, & Vlahov, 2009; Kroes, 1976; Reilly & DiAngelo, 1990; Reiser, 1974; Violanti & Aron, 1993, 1994, 1995; Violanti & Marshall, 1983) and that police officers lead unique lifestyles which may leave them vulnerable to a myriad of potential stressors (Aaron, 2000; Abdollahi, 2002; Anderson et al., 1995; Ayers, 1990; Blackmore, 1978; Ellison, 2004; Ellison & Genz, 1983; Gershon et al., 2009; Grencik, 1975; Morash & Harr, 1995; Morash, Haar, & Kwak, 2006; Stratton, 1978; Swanson, Territo, & Taylor, 2005; Wallace, 1978) that are foreign to many people involved in less physically and emotionally demanding occupations (Abdollahi, 2002; Brown & Campbell, 1990; Brown & Campbell, 1994; Crank & Caldero, 1991; Kroes et al.,
1974; Sewell, 1981; Storch & Panzarella, 1996; Violanti & Aron, 1995). Although these potential stressors have been identified through a variety of methods (Abdollahi, 2002; Eisenberg, 1975; Ellison, 2004; Kroes, 1976; Kroes et al., 1974; Reiser, 1974; Reiser, 1976; Swanson et al., 2005), police stressors have typically been grouped into the following four general categories: (1) operational stressors (i.e., stressors related to the job/duty of a police officer); (2) organizational stressors (i.e., stressors related to the police agency); (3) intra/interpersonal stressors (i.e., stressors related to individual personality); and (4) stressors external to the police role and police agency (i.e., general life stressors) (Abdollahi, 2002; Ayers, 1990; Blackmore, 1978; Ellison, 2004; Ellison & Genz, 1983; Grencik, 1978; Stratton, 1978; Swanson et al., 2005; Wallace, 1978). Furthermore, exposure to these potential stressors, if left ungoverned and allowed to accumulate over time, may give birth to any number of physiological, psychological, and/or behavioral difficulties for the individual police officer (Abdollahi, 2002; Anderson et al., 1995; Ellison, 2004; Gershon et al., 2009; Morash et al., 2006; Swanson et al., 2005; Violanti, 1983; Violanti, Marshall, & Howe, 1985) which can then have an adverse impact on the police agency as well as on the public at large (Anderson et al., 1995; Armaranto, Steinberg, Castellan, & Mitchell, 2003; Ellison, 2004; Swanson et al., 2005).

For instance, stress in policing has been linked to a host of adverse health (i.e., physiological) consequences for the individual police officer, such as an increased risk for coronary heart disease (Abdollahi, 2002; Gershon et al., 2009), cardiovascular disease (Abdollahi, 2002; Franke, Collins, & Hinz, 1998; Gershon et al., 2009), gastrointestinal disorders (Abdollahi, 2002; Gershon et al., 2009; Morash et al., 2006; Richard & Fell, 1975), diabetes (Abdollahi, 2002; Milham, 1983), headaches (Abdollahi, 2002; Kroes et al., 1974), circulatory disorders (Abdollahi, 2002; Richard & Fell, 1975), cancers of the esophagus, colon, and liver
(Abdollahi, 2002; Milham, 1983; Violanti, Vena, & Marshall, 1986), and mortality (Abdollahi, 2002; Violanti et al., 1986).

Included among the psychological difficulties associated with police stress are anxiety disorders (Abdollahi, 2002; Dietrich & Smith, 1986; Violanti et al., 1986), depression (Abdollahi, 2002; Brown & Campbell, 1990; Dietrich & Smith, 1986; Gershon et al., 2009; Morash et al., 2006; Violanti et al., 1986), posttraumatic stress disorder (PTSD) (Abdollahi, 2002; Carlier, Voerman, & Gersons, 2000; Gersons, Carlier, Lamberts, & Kolk, 2000; Kates, 2008; Reiser & Geiger, 1984; Robinson, Sigman, & Wilson, 1997) as well as job dissatisfaction, burnout, apathy, nervousness, restlessness, anger, suspiciousness, isolation, boredom, alienation, emotional exhaustion, and emotional distancing (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984).

Behavior difficulties that may plaque police officers due to unremitting police stress are drug/alcohol use and/or abuse (Abdollahi, 2002; Dietrich & Smith, 1986; Morash et al., 2006; Violanti et al., 1986), hypervigilance (Gilmartin, 2002), hyperaggressiveness (Gershon et al., 2009; Paton, Violanti, & Schmuckler, 1999; Violanti et al., 1985), absenteeism (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984), early retirement (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984), increased rates of marital discord including domestic violence, infidelity, and divorce (Morash et al., 2006; Terry, 1981), and even suicide (Abdollahi, 2002; Kates, 2008; Morash et al., 2006).

Negative outcomes associated with stress at the agency level include poor productivity, low morale, problems with recruitment, as well as increased tardiness and/or absenteeism, rates of turnover, health care utilization, and workers’ compensation claims/costs (Gershon et al., 2009; Malach-Pines & Kienan, 2006; Tang & Hammontree, 1992). Indeed, during 2006,
Hickley (2007) reported that, in the United Kingdom (UK), stress related illnesses resulted in more than: (1) 1,000 police officers being off per day; (2) 300,000 missed working days per year; and (3) 8,000 officers claiming full pay while on restricted duties. Costs associated with stress related illnesses in the UK during 2006 amounted to more than £252 million per year, which equates to more than $415,825,200 in 2011 United States (U.S.) dollars (Hickley, 2007). The aforementioned can accrue in such a way that they corrode the efficacy of the police agency and imbue the general public with a level of mistrust that may dampen support for the police agency in the community at large (Gershon et al., 2009).

Regardless of the heightened alertness to police stress and the associated deleterious effects it may have upon police officers (as well as the police agency and community at large), the physiological, psychological, and/or behavioral difficulties in policing continue to amass at a distressing pace (Collins & Gibbs, 2003; Gershon et al., 2009). Furthermore, the negative consequences associated with police stress may be magnified for those police officers who are susceptible to stress, particularly those police officers deficient in the requisite skills for coping with stress (Dewe & Guest, 1990; Gershon et al., 2009; Latach & Havlovic, 1992; Thompson, Kirk, & Brown, 2005; Violanti et al., 1985). Thus, begging the question of what has been done to assist police officers in developing the requisite skills for coping with stress so as to more successfully navigate one’s career in policing without falling prey to the myriad of potential stressors in policing. In other words, what kinds of programs have police agencies implemented to assist officers in their battle against stress? And, have these programs been effective at assisting police officers in developing skills to mitigate the effects of potential stressors?

Historically, police agencies and training academies have placed more of an emphasis on teaching new recruits and current police officers job related skills rather than on
training/educating them as to the importance of physical health and/or mental health and resiliency (Waters & Ussery, 2007). Despite the sluggish progression in the development and evolution of programs targeting police officer mental health and resiliency, early attempts at such programs can be traced back to the 1950s when large metropolitan police departments, such as those in New York and Chicago, began to address problems associated with alcohol use and/or abuse in their police officers (Milofsky, Astrov, & Martin, 1994; Swanson et al., 2004). The 1970s witnessed the dawning of more comprehensive programs, such as those in the San Francisco Police Department and the Los Angeles Sheriff’s Office, addressing both alcohol use/abuse problems, as well as other mental health issues that police officers may face (Swanson et al., 2004). By the mid-1980s, stress units and/or other stress management programs designed to ameliorate police stress had been established in many of the largest metropolitan police departments across the U.S. (Swanson et al., 2004).

More recently, the Violent Crime Control and Law Enforcement Act, the largest crime bill in the history of the U.S. which, among other things, allotted $6.1 billion in funding for prevention programs aimed at law enforcement/police officers, was signed into law by then President Bill Clinton in 1994. As stipulated in Title XXI – State and Local Law Enforcement, Subtitle B – Law Enforcement Family Support, Section 2301 – Duties, the U.S. Attorney General shall gather and distribute information regarding stress and stress reduction techniques to federal, state, and local police agencies and develop stress reduction training programs for state and local police agencies. Furthermore, Section 2303 – Uses of Funds requires that any State or Local police agency that receives funds under this act must create or improve upon training and support programs such as stress reduction programs for police personnel.
Perhaps as a result of both this act and the atrocities faced by emergency responders, including police officers, in the aftermath of the terrorist attacks of September 11, 2001, the past two decades have seen a marked increase in the development and availability of stress management programs and other psychological services specifically aimed at police officers. For instance, in a survey of 57 law enforcement agencies across the state of Texas, MacMillan (2009) found that 88% provided mental health services and that 74% provided some form of stress management services. Although intervention models (i.e., models in which assistance is offered after a police officer has developed a stress-related problem) have been employed in the battle against police stress, prevention models (i.e., models in which assistance is offered prior to the development of a stress-related problem) are preferred because they: (1) allow for the assistance of all police officers rather than only the individuals who have developed a stress-related problem; (2) do not necessitate the admission of a problem prior to receiving assistance; and (3) are more cost-effective (Alkus & Padesky 1983; Farmer & Monahan, 1980a; Stinchcomb, 2004). Indeed, both Stinchcomb (2004) and MacMillan (2009) reported that in police agencies across the U.S., preventative stress management training programs are currently the most commonly utilized method for addressing police stress.

From the aforementioned, it is clear that preventative stress management training programs have become a widespread response in dealing with police stress in police agencies. However, regardless of the evidence suggesting promising results, the vast majority of these conclusions have been predicated upon anecdotal, subjective, and impressionistic data. Thus far there is little empirical evidence in the literature base describing the efficacy of these preventative stress management training programs. As such, Patterson (2003) cautions that “more empirical evidence demonstrating the efficacy of stress management programs on
psychological well-being and the utility of cognitive approaches to stress management is needed” (p. 224) and states “stress management programs designed for police officers should consider the number of stressful life events police officers experience, and that such programs should not focus exclusively on work-related events and situations” (p. 224).

In an effort to bridge this chasm in the literature base and address limitations associated with this line of inquiry, the current study examined the impact that a comprehensive stress inoculation training (SIT) program had on a small-sized city police department in the southwest of the U.S. Specifically, the aim of the current study was to investigate whether a comprehensive SIT program would any impact upon police officer self-reported levels of stress. It was hypothesized that a comprehensive SIT program designed to provide police officers with the requisite tools to more effectively combat the multifaceted phenomenon of police stress would result in reduced levels of self-reported stress.

In laying the groundwork that assists in exploring this question, the second chapter begins with a discussion of the concept of stress, providing a brief history of stress along with a review of the most commonly used theoretical perspectives that explain the rise of the stress response in human beings. In particular, Lazarus and Folkman’s (1984) relational/transactional view of stress and coping, the theoretical base upon which SIT rests, is presented. The next section of the second chapter details the concept of police stress, including a discussion of the potential sources, correlates, and consequences of police stress. The next section of the second chapter provides both an overview of SIT in general, as well as its application in police agencies. In the final section of the second chapter, the purpose and hypothesis of the current study are considered. The third chapter details the: (1) research design of the current study; (2) demographics of study participants; (3) procedures that were undertaken; (4) measures that were
utilized; (5) independent and dependent variables; and, (6) the method(s) of data analysis. The
further chapter details the statistical results of each of the four main hypotheses as well as the
ancillary analyses. The fifth, and final chapter, provides a discussion of the statistically
significant results, including limitations of the current study as well as possible future directions
for research, police departments/agencies, and the individual police officer.
CHAPTER 2
LITERATURE REVIEW

Stress has become so endemic to human existence that nearly every individual across the globe acknowledges that stress is an accepted and normal condition of everyday life. Most people also agree that though a limited amount of stress can be beneficial (i.e., driving one to grow, change, and/or adapt), high levels of stress, when not managed effectively, can negatively impact long-term health (i.e., leading to fatigue, obesity, heart disease, depression, etc.) and take a toll on one’s relationships and work life. Indeed, the American Psychological Association’s (APA) 2010 Stress in America Survey found that approximately 75% of respondents reported being stressed out to the max and that although these unhealthy levels of stress could put them at risk for developing chronic illnesses, while only 32% of respondents reported feeling that they were doing an adequate job of coping with stress (Anderson, Nordal, Breckler et al., 2010). Furthermore, of those survey respondents who were employed, many reported that work stress tended to follow them home and negatively impacted at-home relationships and as such few respondents reported being satisfied with the balance between the work-a-day world and home life (Anderson et al., 2010).

The World Health Organization (WHO), a specialized agency within the United Nations (UN) that acts as the directing and coordinating authority on international public health, estimates that results of the 2010 Stress in America Survey reflect a similar trend in countries throughout the world (Hickey, 2010). According to Norman B. Anderson, Ph.D., Chief Executive Officer (CEO) of the APA, we all “need to take stress seriously since stress could easily become our next public health crisis” (as cited in Hickey, 2010). As ubiquitous as stress appears to be, it’s almost unfathomable that the concept of stress has been the topic of serious
scientific research only since the early twentieth century and has received attention in the popular media for only the last thirty years.

The Concept of Stress

Historical Antecedents

Although the present-day understanding of the concept of stress did not appear until the twentieth century, the word stress dates back to the fourteenth century and is derived partly from the Old French destresse (distress) and partly from the Old French estrece (narrowness, oppression), which are, in turn, derived from the Latin stringere (to draw tight) (Cooper & Dewe, 2004; Lazarus & Folkman, 1984; Woolfolk, Lehrer, & Allen, 2007). During the fourteenth century, stress was used to signify hardship, straits, adversity, or affliction (Cooper & Dewe, 2004; Lazarus & Folkman, 1984; Woolfolk et al., 2007). In the sixteenth century stress was used to indicate overwork and/or fatigue (Cooper & Dewe, 2004; Lazarus & Folkman, 1984; Woolfolk et al., 2007). By the late seventeenth century and through the nineteenth century, stress was employed by the physical sciences to denote strain, distortion, or deformation of an object that had been caused by external force or pressure (Cooper & Dewe, 2004; Lazarus & Folkman, 1984; Woolfolk et al., 2007). This definition of stress began to influence the field of medicine where, in the late nineteenth century, Sir William Osler, a physician who has been labeled the “father of modern medicine,” believed that poor health/disease stemmed from the pressure(s) that environmental forces exerted upon the individual (Cooper & Dewe, 2004; Lazarus & Folkman, 1984; Woolfolk et al., 2007).

The present-day conception of stress can trace its roots back to the early twentieth century and Walter B. Cannon, a physiologist at Harvard Medical School, who studied digestion
in animals (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Woolfolk et al., 2007). Cannon, in his work with animals, noticed that digestion halted when an animal became anxious and/or frightened (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Woolfolk et al., 2007). This observation ignited Cannon’s curiosity in the relationship between emotional states and physiological functioning and led to the discovery that emotional responses to a potential threat serve to mobilize energy to either attack or avoid the potential threat (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Woolfolk et al., 2007).

Specifically, Cannon observed that when faced with a potential threat, excitation of the sympathetic nervous system occurs, which produces an array of physiological changes (e.g., increased heart rate, respiration, perspiration, etc.) that prepare the body to either fight or flee (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Woolfolk et al., 2007). Cannon, in 1915, designated this as the “fight-or-flight response” and although he rarely used the term stress (Woolfolk et al., 2007), he was the first investigator to identify what has commonly become known as the stress response (Greenberg, 2009).

Fascination with the newly coined fight-or-flight response led Hans Selye, an endocrinologist, to a more in-depth exploration of this response (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Woolfolk et al., 2007). By exposing rats to stressors (i.e., an agent with the potential to initiate a stress response), Selye was able to pinpoint physiological changes in the body (i.e., enlarged cortex of the adrenal glands; shrinkage of the thymus, spleen, lymph nodes; disappearance of white blood cells, eosinophil; and, bleeding ulcers in the stomach and duodenum), concluding that these physiological responses occurred no matter where the stress originated (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Woolfolk et al., 2007). As such, Selye (1974) defined stress as “the nonspecific
response of the body to any demand made upon it” (p. 14) and outlined the general adaptation syndrome (GAS), a three stage model of the physiological response to stress.

According to Selye and the GAS, the physiological response to stress is comprised of the following three stages: (1) alarm; (2) adaptive-resistance; and (3) exhaustion (Selye, 1946). The alarm stage, corresponding to Cannon’s fight-or-flight syndrome, occurs when physiological changes are launched due to the body’s initial exposure to a potential threat or stressor (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Selye, 1946; Woolfolk et al., 2007). Continued exposure to a stressor pushes the body into the adaptive-resistance stage, where there is an attempt by the body to adapt to the stressor (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Selye, 1946; Woolfolk et al., 2007). This adaptation requires mobilization of a finite number of physiological resources that may eventually become depleted and thrust the body into the exhaustion stage (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Selye, 1946; Woolfolk et al., 2007). In this third and final stage of the GAS model, long-sustained exposure to a stressor exhausts the body’s immune system and impairs normal bodily functions (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Selye, 1946; Woolfolk et al., 2007). This depletion of the body’s resources causes the body to be prone to a variety of illnesses and may eventually lead to death (Cooper & Dewe, 2004; Greenberg, 2009; Lazarus & Folkman, 1984; Selye, 1946; Woolfolk et al., 2007).

The works of both Cannon and Selye were firmly anchored in biology and are the predominant influence of contemporary thinking regarding the impacts that the demands of life have on the physiology of living organisms. However, the role that psychological factors played in the stress response were less clearly delineated at this point in time. Indeed, when he first began his work in stress, Selye (1983) “gave little thought to its psychological or sociological
implications for [he] saw stress as a purely physiological and medical phenomenon” (p. 1). Although scientific inquiry of the stress concept transpired “historically in two largely separate spheres [physiology and psychology]” (Mason, 1975, p. 22), the chasm between the physiological work of Cannon and Selye and the contemporary psychological approaches to understanding the stress concept is bridged by Adolf Meyer, Harold G. Wolff, and A.T.W. Simeons and their work in psychobiology.

The systematic examination of stressful life events and how they related to both physical and mental health primarily stems from the pioneering work of the Swedish psychiatrist, Adolf Meyer, who believed that stressful life events had the potential to produce a variety of diseases and mental illnesses (Cooper & Dewe, 2004). Meyer espoused the notion that stressful life events need not be inherently negative and/or catastrophic in order to have an adverse impact upon physical and/or mental health (Cooper & Dewe, 2004). Rather, these stressful life events merely had to be interpreted as representing important life changes and could be things such as a death in the family, a new job opportunity, moving to a new city, marriage, or divorce (Cooper & Dewe, 2004). Furthermore, Meyer insisted that the temporal relationship between an individual’s stressful life events and subsequent physical and/or mental illness could be best understood only through an in-depth exploration of the biological, psychological, and social factors relevant to that particular individual (Cooper & Dewe, 2004). With this in mind, Meyer invented the life chart, a clinical tool that had a large impact upon the biological and psychological sciences due to the emphasis upon developing detailed patient case histories (Cooper & Dewe, 2004).

Another individual that expanded on “the idea that life stress played a role in the etiology of disease” (Bartlett, 1998, p. 27) was the American physician, Harold G. Wolff. In his book, *Stress and Disease*, Wolff (1953) proposed that, when confronted by a threat that places one’s
values and beliefs in peril, an individual will “initiate responses inappropriate in kind as well as in magnitude. Such reactions, integrated for one protective purpose, and thus inappropriately used for another, can damage or destroy” (p. vii). Here, one’s protective reaction response, which mobilizes resources to defeat a threat, may be enacted in both an appropriate (e.g., fighting a flu virus) and inappropriate (e.g., test anxiety) manner (Cooper & Dewe, 2004). If enacted inappropriately, “the unsuitability of the reaction pattern as well as its magnitude and duration, especially endanger survival” (Wolff, 1953, p. 150). The primary contribution of Wolff’s work lies in the view that stress stems from an individual’s perception of a situation and that this perception is dependent on a wide array of factors such as “genetic equipment, basic individual needs and longings, earlier conditioning influences, and a host of life experiences and culture pressures” (Wolff, 1953, p. 150).

Taking Wolff’s view a step further was A.T.W. Simeons, an American physician, who claimed that the human brain had not evolved at a rate necessary to respond to the many symbolic life stressors of the twentieth century (Greenberg, 2009). Similar to Wolff, Simeons believed that the fight-or-flight response could be an appropriate or inappropriate response depending upon the nature of the threat that the response was mobilized to combat. For instance, if anxious about one’s upcoming performance on an exam, neither fighting nor fleeing is an appropriate reaction. As such, the fight-or-flight response is inappropriate in that it prepares the body physiologically to do something our psychological make-up blocks (Greenberg, 2009). Furthermore, Simeons felt that byproducts (i.e., stress) associated with this inappropriate response breaks the body down and leaves one vulnerable to psychosomatic disease (Greenberg, 2009).
Although the work of Meyer, Wolff, and Simeons is often overlooked in the annals of stress research, it is important to re-emphasize the fact that these individuals helped to bridge the chasm between the physiological work of Cannon and Selye and the contemporary psychological approaches to understanding the stress concept. In fact, the main criticism associated with the psychobiological approach of Meyer, Wolff, and Simeons was that none of their models of stress attempted to explain why different individuals responded in different ways to the same threatening stimuli (Cooper & Dewe, 2004) and it was this criticism that provided the impetus to explore individual differences in the stress response and ushered in the era of more contemporary psychological approaches to understanding the stress concept.

Interest in individual differences “in relation to the experience and effects of stress and in relation to coping is virtually a defining characteristic of the more psychological approaches. As a result, much research effort has been expended in exploring their nature and role, and in trying to establish the natural ‘laws’ which govern their behavior” (Cox & Ferguson, 1991, p. 7). This line of research proved to be fruitful and resulted in a wide array of individual differences in response to stress being studied (Cooper & Dewe, 2004).

Early work on individual differences in response to stress arose out of the research conducted during World War II and the Korean War, which focused on the effects of stress on performance and where it was discovered that stress did not consistently facilitate or debilitate performance as predicted by the Yerkes-Dodson law of arousal/inverted U hypothesis (Lazarus & Folkman, 1984). Indeed, Lazarus and Erikson (1952) discovered that, rather than causing an average increase or decrease in performance, stress engendered variable performances in which some research participants did extremely well while others did much worse. From this and other investigations, it was evident that stressful stimuli alone could not aid in predicting performance
and that to do so, required attending to the psychological processes that underlie individual differences (Cooper & Dewe, 2004; Lazarus & Folkman, 1984).

The increasing importance being accorded to individual differences in the response to stress spurred interest in areas such as “how do individual differences relate to the development of symptoms of psychological strain…how do individual differences relate to perceptions of stress in the environment…do they act as moderators of the stress-strain relationship…do they affect the way people cope with stress” (Payne, 1988, p. 201). For example, questions such as these have led stress researchers to: (1) a revision of the traditional viewpoint of stress and illness/disease to now encompass life-threatening diseases such as cancer (Cooper & Dewe, 2004; Lazarus & Folkman, 1984); (2) investigate how the stress response may be impacted by an individual’s perception of control, predictability, sense of purpose/meaning, social support network, and outlets for frustration (Ellison, 2004); (3) identify potential moderators such as individual personality traits like introversion/extroversion that may “alter the strength or direction of the stress-strain relationship” (Cooper & Bright, 2001, p. 114); and (4) the development of a number of stress management and/or coping interventions such as Meichenbaum’s (1977, 1985, 2007) stress inoculation training (SIT).

Theoretical Perspectives

Defining Stress

Despite the fact that the study of individual differences in response to stress has been a fertile field of inquiry for over 60 years, researchers “have only just begun to unravel the complexity of these relationships” (Cooper & Bright, 2001, p. 130) and many agree that there is still a vast amount of work to be done “in terms of measurement strategies, identifying
appropriate methodological approaches and developing frameworks that integrate individual differences into the stress process” (Cooper & Dewe, 2004, p. 57). Another area of agreement in stress research is that even though the forging of a universal definition of stress is desirable and the scientific community has attempted to do so, no satisfactory universal definition of stress exists (Ellison, 2004; Lazarus & Folkman, 1984; Stokes & Kite, 2001, Tepas & Price, 2001).

As previously mentioned, the meaning of stress has seen many permutations throughout the centuries. Indeed, as Stokes and Kite (2001) point out, if one were to look up the word stress in the *Oxford English Dictionary*, they would find over three full pages dedicated to the different meanings and usages of the term! This apparent versatility has led many in the scientific community to question the usefulness of empirically investigating the concept of stress (Stokes & Kite, 2001; Tepas & Price, 2001). However, not everyone in the scientific community is pessimistic about the lack of a universal definition or the utility of the concept of stress as a fruitful area of scientific inquiry (Lazarus & Folkman, 1984). Here, Lazarus and Folkman (1984) suggest that, in order to increase the value of the term/word stress, “it is incumbent upon those who use this approach…to adopt a systematic theoretical framework for examining the concept (Lazarus & Folkman, 1984, p. 12). With this in mind, those who conduct research into the concept of stress typically subscribe to one of the three following definitional/theoretical orientations: (1) the stimulus definition; (2) the response definition; and (3) the transactional definition (Ellison, 2004; Lazarus & Folkman, 1984).

*The stimulus definition.* According to Lazarus and Folkman (1984), the most common definition of stress employed within the field of psychology has been the stimulus definition. Here, stress is typically defined as an exogenous (i.e., external) event (i.e., stress stimuli or stressors) that exerts influence upon an individual. That is, the stimulus definition of stress
assumes that certain events are unpalatable and as such, they are designated as a stressor. The types of events that are often cited as stressors include cataclysmic events that impact a large number of individuals (e.g., earthquakes, hurricanes, tsunamis, tornados), major changes that impact one or a few individuals (e.g., death of a family member or friend, terminal/incapacitating disease or illness, loss of job, marriage, divorce, giving birth), and daily hassles (e.g., getting a flu/cold, arguing with ones significant other, rush hour traffic) (Lazarus & Folkman, 1984). The stimulus definition of stress has been criticized on the grounds that it ignores individual differences and that there is no such thing as an inherently stressful stimulus (Stokes & Kite, 2001). As such, stress has become “merely a convenient label and collective noun indicating certain environmental and organismic conditions” (Sanders, 1983, p. 62).

The response definition. In contrast to the stimulus definition of stress, the response definition views stress as an observable reaction resulting from exposure to either an external or internal stimulus (Ellison, 2004; Lazarus & Folkman, 1984; Stokes & Kite, 2001). Furthermore, rather than stress being a result of exogenous (i.e., external) variables, the response definition of stress maintains that stress is an endogenous (i.e., internal) variable characterized by the following categories of responses: (1) physiological (e.g., rapid heartbeats, increased respiration and perspiration); (2) behavioral (e.g., yelling, cursing, crying); (3) affective (e.g., anger, sadness, joy, frustration, anxiety); and (4) cognitive (e.g., lack of concentration, forgetfulness) (Ellison, 2004; Lazarus & Folkman, 1984; Stokes & Kite, 2001). Although there is a large base of empirical research utilizing this approach to stress, particularly in regard to physiological stress responses, the response definition has been criticized as being “curiously non-psychological” (Stokes & Kite, 2001, p. 114) and “bypassing the role of the individual as a
thinking, reflective, purposive, emotionally engaged participant in the [stress] process” (Stokes & Kite, 2001, p. 114).

The transactional definition. In the late 1970s and early 1980s, a third definition of stress that espoused a transactional view of the stress response process appeared and was hailed by the scientific community as representing “a radical redirection in stress research” (Stokes & Kite, 2001, p. 115). According to this approach, stress is not conceptualized as being a mere stimulus (as in the stimulus definition of stress) or response (as in the response definition of stress) (Stokes & Kite, 2001). Instead, stress is viewed as arising from the transaction between the person and the environment in which they reside, while taking into account characteristics of the person as well as the nature of the environment (Lazarus & Folkman, 1984; Stokes & Kite, 2001). That is, stress is inherent in the nature of the transaction (Lazarus & Folkman, 1984) and this transaction, through personal motivations and environmental threats or opportunities, may be appraised by the individual as taxing or exceeding his/her resources and endangering his/her well-being (Lazarus & Folkman, 1984; Stokes & Kite, 2001) thus giving birth to a stress response. Within this approach, both cognitive appraisal and coping are emphasized as mediators of the person-environment transaction (Lazarus & Folkman, 1984). Here, cognitive appraisal refers to the “evaluative process that determines why and to what extent a particular transaction or series of transactions between the person and environment is stressful” (Lazarus & Folkman, 1984, p. 19), while coping refers to “the process through which the individual manages the demands of the person-environment relationship that are appraised as stressful and the emotions they generate” (Lazarus & Folkman, 1984, p. 19).

The transactional approach to defining stress has not been without its detractors. Their main criticism revolved around the fact that this approach ignores or glosses over (Stokes &
Kite, 2001) affective states which may impact the process of cognitive appraisal. In response, Folkman and Lazarus (1988) conducted a study in which 75 married couples were followed for a period of five months, during which they were asked to complete a monthly assessment detailing the stressful events they had faced, along with the emotions they had experienced during the stressful events, and the coping strategies they had enacted to mitigate the impact of the stressful events. Here, it was discovered that cognitive appraisal and coping mediated affective experiencing in three ways: (1) through cognitive activity which influences attention; (2) by altering the subjective meaning of a stressor; and (3) through behaviors that alter the terms of the person-environment transaction (Folkman & Lazarus, 1988). After addressing the major criticism associated with this approach, the transactional definition of stress was to become “the consensus among stress theorists” (Stokes & Kite, 2001, p. 115) by the 1990’s.

Definition of stress in the current study. As can be seen, conceptualizing and defining stress has been a conundrum faced by those in the field of stress research for many years. No wonder one such stress researcher commented that “defining stress is like nailing Jell-O to a tree…it’s hard to do! (Elkin, 1999, p. 23). However, one can also see that this conundrum can be partially solved through subscription to one of the three previously discussed definitional/theoretical orientations of stress. For the purpose of the current study, and in line with the tenets of SIT, the transactional definition of stress was utilized.

Police Stress

As previously mentioned, stress in policing, as well as its impact on both the police officer and police agencies, has been the subject of a vast amount of literature in both academic and the popular press through the past four decades (Abdollahi, 2002; Oliver & Meier, 2009).
Early inquiries into this field are replete with the characterization that police work is inherently stressful and consequently, policing has been labeled as one of the world’s most stressful professions (Abdollahi, 2002; Anshel, 2000; Axelbred & Valle, 1978; Beehr et al., 1995; Brown & Campbell, 1994; Dantzer, 1987; Fennell, 1981; Selye, 1978; Somodavilla, 1978). Indeed, Carl Goodin, former Police Chief for the city of Cincinnati, remarked that “figures show that career officers, both active and retired, die younger than most other occupational groups and suffer particularly high incidents of health problems…stress is the reason named time and again by researchers of occupational hazards as the major debilitating factor in the police officer’s job” (Goodin, 1975, p. 1). In line with this sentiment, others have identified police work as being “the most psychologically dangerous job in the world” (Axelbred & Valle, 1978, p. 3), as well as “the most dangerous job in the world emotionally” (Fennell, 1981, p. 170). Furthermore, those choosing to serve as police officers were seen as facing a level of “stress and pressure unequaled by any other occupation” (Somodavilla, 1978, p. 21).

For research scientists with an interest in the field of policing, the core issue to be addressed here was whether or not the job of a police officer is inherently more stressful than other occupations. Here, contemporary research suggests that police work is not at all inherently stressful (Abdollahi, 2002; Anson & Bloom, 1998; Bar-On et al., 2000; Brown & Campbell, 1990; Brown & Campbell, 1994; Gulle et al., 1998; Hart et al., 1995; Lawrence, 1984; Lefkowitz, 1975; Malloy & Mays, 1984; Shane, 2010; Terry, 1981), that police officers do not suffer from stress in an as extreme form as conventionally believed (Hart et al., 1995; Kirkcaldy et al., 1999; Shane, 2010), and that police officers are no more stressed than individuals from any other occupational category (French, 1975; Kroes et al., 1974; Shane, 2010). Although there is disagreement about whether policing is inherently stressful or not, there does appear to be a
consensus that police work is a high stress and high strain occupation (Abdollahi, 2002; Alkus & Padesky, 1983; Anderson et al., 1995; Anshel, 2000; Brown & Campbell, 1994; Ellison, 2004; Gershon et al., 2009; Kroes, 1976; Reiser, 1974; Reilly & DiAngelo, 1990; Violanti & Aron, 1995; Violanti & Marshall, 1983) and that police officers lead unique lifestyles which may leave them vulnerable to a myriad of potential stressors (Aaron, 2000; Abdollahi, 2002; Anderson et al., 1995; Ayers, 1990; Blackmore, 1978; Ellison, 2004; Ellison & Genz, 1983; Gershon et al., 2009; Grecik, 1975; Morash & Harr, 1995; Morash et al., 2006; Stratton, 1978; Swanson et al., 2005; Wallace, 1978) that are foreign to many people involved in less physically and emotionally demanding occupations (Abdollahi, 2002; Brown & Campbell, 1994; Brown & Campbell, 1990; Crank & Caldero, 1991; Kroes et al., 1974; Sewell, 1981; Storch & Panzarella, 1996; Violanti & Aron, 1995).

**Potential Sources of Police Stress**

Clearly, police stress is a complex formula (Abdollahi, 2002) that is comprised of a wide array of contributory factors. Although police stress has proven difficult to measure (Abdollahi, 2002), potential stressors have been identified through a variety of methods (Abdollahi, 2002; Eisenberg, 1975; Ellison, 2004; Kroes, 1976; Kroes et al., 1974; Reiser, 1974; Reiser, 1976; Swanson et al., 2005). Those things identified as potential sources of police stress have typically been grouped into four general categories: (1) operational stressors (i.e., stressors related to the job/duty of a police officer); (2) organizational stressors (i.e., stressors related to the police agency); (3) intra/interpersonal stressors (i.e., stressors related to individual personality); and (4) stressors external to the police role and police agency (i.e., general life stressors) (Abdollahi,
Policing, as an occupation, involves the performance of a variety of essential tasks that often have the potential to be traumatic, harmful, and life-threatening (Abdollahi, 2002). Consequently, one area that police stress researchers often examine is the stress that may arise as a result of the wide assortment of tasks police officers perform (Abdollahi, 2002; Anshel, 2000; Brown & Campbell, 1994; Crank & Caldero, 1991; Kroes, 1979; Kroes et al., 1974; MacLeod & Paton, 1999; Storch & Panzarella, 1996; Stephens & Long, 2000; Symonds, 1970). From this line of research, Abdollahi (2002) lists a number of stressors associated with the work and/or tasks of a police officer, including dealing with the courts/judicial system, media coverage/scrutiny, community relations, using/witnessing deadly force, encountering victims of crime/brutality and fatalities, and encountering violent and/or unpredictable situations.

Many police officers have reported that an aggravating and stressful part of their job is dealing with court proceedings and having to interact with judicial system personnel, such as prosecutors and defense attorneys (Abdollahi, 2002; Ayers & Flanagan, 1994; Kroes, 1976). Police officers reportedly experience stress as a result of feeling that their hard work in apprehending a criminal is unappreciated by a judicial system that is too lenient (i.e., plea bargains or reduced sentences being offered, criminals being released on technicalities) (Abdollahi, 2002; Ayers & Flanagan, 1994; Kroes et al., 1974; Stratton, 1978). Police officers have also identified media coverage/scrutiny as representing a stressor associated with their work (Abdollahi, 2002; Kroes, 1976). Here, criticism and distorted reports leveled by the media often result in police officers and/or police agencies being tagged with a poor reputation which
subsequently affects the morale of the individual police officer and overall police agency, which in turn, creates a great deal of stress and strain (Abdollahi, 2002; Davidson & Veno, 1980; Eisenberg, 1975; Kroes & Gould, 1974; Kroes et al., 1974). Furthermore, this erroneous media coverage/scrutiny may result in community members developing a negative impression of both police officers and the police agency (Abdollahi, 2002; Brown & Campbell, 1994; Kroes, 1976; Kroes & Gould, 1974; Kroes et al., 1974; Violanti & Aron, 1993; Wilson, 1968). Consequently, community relations begin to deteriorate and create a source of stress for police officers, particularly for those whose agency emphasizes community policing (Abdollahi, 2002; Brown & Campbell, 1994).

Police work may, at times, require police officers to use and/or be witness to the use of deadly force (Abdollahi, 2002). Here, things such as killing someone in the line of duty, witnessing a fellow officer being killed, or being shot by a suspect, have all been identified as stressful events that may lead to a police officer experiencing post-traumatic stress symptomatology (Abdollahi, 2002; Gersons et al., 2000), personal problems (Abdollahi, 2002; Alkus & Padesky, 1981), and severe psychological and/or physical ailments (Abdollahi, 2002; Anshel, 2000; Stephens & Long, 2000; Paton & Smith, 1999). Similarly, police officers are often tasked with facing victims of crime and brutality, as well as fatalities (Abdollahi, 2002). Here, police officers have revealed that encountering these types of situations, particularly when they involve children, are not only difficult, but also disturbing (Abdollahi, 2002; Alexander & Wells, 1991; Duckworth & Charlesworth, 1988; Durham, McCammon, & Allison, 1985; Kroes, 1976; Kroes & Gould, 1974; Kroes et al., 1974; MacCleod & Paton, 1999). Repeated exposure to such traumatic events may result in grave psychological damage (Abdollahi, 2002).
Finally, police officers are often required to enter situations in which they have little information about and, as a result, must constantly be prepared to face danger, violent individuals, and/or catastrophes (Abdollahi, 2002; Blau, 1994). Police officers have reported that this ever present threat of violence, along with having to enter an unpredictable situation, is more strenuous and stressful than entering into situations where there is known danger (i.e., a robbery in progress) (Abdollahi, 2002; Blau, 1994; Kroes, 1976; Kroes & Gould, 1974; Kroes et al., 1974; MacLeod & Paton, 1999; Stratton, 1980).

Organizational Stressors

A second category of stressors commonly cited in police stress literature as contributing to police stress are classified as organizational stressors (Abdollahi, 2002). Unlike operational stressors, which arise as a result of the essential tasks and/or duties of the police officer, organizational stressors are generated by certain things and/or practices that are common in police organizations but not related to the tasks and/or duties of the police officer (Abdollahi, 2002; Ellison, 2004; Toch, 2002). Included here are such things as shift work, inadequate supervision, poor supervisory relationships, lack of input into policy and/or decision making, lack of recognition, insufficient administrative support, excessive paperwork, insufficient pay, poor resources, and role conflict/ambiguity (Abdollahi, 2002; Ayers, 1990; Ellison, 2004, Toch, 2002).

Policing is an around-the-clock occupation in which police officers are often required to work long hours through a variety of rotating shifts (Abdollahi, 2002; Ayers, 1990; Ayers & Flanagan, 1994; Crank & Caldero, 1991; Sewell, 1981; Stratton, 1978). Although police agencies have attempted to alleviate stress through the implementation of 4/10 work schedules (i.e., four days a week for ten hours a day), shift work is still reported as being a major stressor

Another organizational practice often identified by police officers as representing a major source of stress is the lack of input that they have into both policy and decision making (Abdollahi, 2002; Ayers & Flanagan, 1994; Kroes, 1976; Violanti & Aron, 1993). Being bereft of the opportunity to provide input into decisions that impact them directly renders police officers as unwilling to fully express themselves to their immediate superiors and leaves them feeling helpless and stressed (Abdollahi, 2002; Ayers & Flanagan, 1994; Kroes, 1976; Violanti & Aron, 1993). Police officers reported lack of recognition as an organizational stressor due to the fact that this leaves them feeling unappreciated and that they are only recognized when problems arise (Abdollahi, 2002; Ayers & Flanagan, 1994; Kroes, 1976; Violanti & Aron, 1994).

Lack of administrative support is another organizational stressor identified by police officers due to the belief that, if an incident occurs that requires the use of deadly force, administration makes a scapegoat out of the individual officer to serve the interest of public relations (Abdollahi, 2002; Ayers & Flanagan, 1994; Kroes, 1976; Violanti & Aron, 1994). Furthermore, insufficient pay (i.e., wages, overtime, benefits) and poor resources (i.e., lack of proper equipment and personnel shortages) are identified by police officers as being frustrating
and stressful aspects of the police organization (Abdollahi, 2002; Ayers & Flanagan, 1994; Kroes, 1976; Violanti & Aron, 1994).

Finally, many police officers face role conflict/ambiguity and cite this as another stressor as originating from organizational practices (Abdollahi, 2002; Ayers & Flanagan, 1994; Brown & Campbell, 1994). Police officers are frequently required to fulfill a variety of roles such as that of a law enforcement officer, psychologist, social worker, and/or chaplain (Abdollahi, 2002). Furthermore, the police department’s goals and objectives may be unclear and/or contradictory (Abdollahi, 2002). In combination, these things give rise to feelings of frustration and leave police officers feeling both conflicted and stressed (Abdollahi, 2002; Ayers & Flanagan, 1994; Brown & Campbell, 1994).

**Intra/Interpersonal Stressors**

Some researchers have suggested that certain personality characteristics interfere with the performance of the essential functions of police work and often predispose a police officer to higher levels of stress (Abdollahi, 2002; Beutler, Nussbaum, & Meredith, 1988; Black, 2000; Brown & Campbell, 1984; Burke, 1989; Sarchione, Cuttler, Muchinsky, & Nelson-Gray, 1998; Scogin, Schumacher, Gardner, & Chaplin, 1995). Although not exhaustive, personality factors that have been explored include self-confidence and self-esteem (Abdollahi, 2002; Frost, Marten, Lahart, & Rosenblate, 1990), optimism and pessimism (Abdollahi, 2002; Alkus & Padesky, 1983; Scheier, Weintraub, & Carver, 1986; Violanti & Aron, 1993), hardiness (Abdollahi, 2002; Kobassa, 1979; Li-Ping Tang & Hammontree, 1992), cynicism (Abdollahi, 2002; Abraham, 2000; Chandler & Jones, 1979; Regoli, Poole, & Hewitt, 1979; Wilt & Bannon, 1976), authoritarianism (Abdollahi, 2002; Coleman & Gorman, 1992), and type A personalities.
Selection and hiring procedures for police officers, such as psychological testing, suggest that particular personality characteristics are preferable in policing while others may predispose the police officer to higher levels of stress (Abdollahi, 2002; Burke, 1989; Beutler et al., 1988; Black, 2000; Brown & Campbell, 1984; Sarchione et al., 1998; Scogin et al., 1995). Self-confidence and self-esteem are different but related concepts (Abdollahi, 2002) where self-confidence is the level of assurance one has in their ability to succeed and self-esteem refers to the extent to which a person approves of, or likes, themselves (Anshel, 2000). Here, police officers, who are less confident in their ability to perform essential tasks of policing effectively and have a low regard for themselves, reportedly feel more stress and less satisfaction with their chosen profession (Abdollahi, 2002; Frost et al., 1990). Furthermore, police officers who are less hopeful about the future and have a negative outlook (i.e., are pessimistic) reportedly tend to catastrophize events and experience more stress when conducting police work (Abdollahi, 2002; Anshel, 2000; Scheier et al., 1986; Davidson & Veno, 1980). Optimism and pessimism, as well as self-confidence and self-esteem, have been related to the concept of hardiness in police officers (Abdollahi, 2002; Li-Ping Tang & Hammontree, 1992). Here, those police officers that are pessimistic and have low self-confidence and self-esteem are reportedly less hardy and experience higher levels of stress (Abdollahi, 2002; Kobassa, 1979; Li-Ping Tang & Hammontree, 1992).

Another personality characteristic that has been identified as problematic for police officers, particularly in regard to the experiencing of stress, is cynicism (Abdollahi, 2002; Brown & Campbell, 1994; Lotz & Regoli, 1977). Although cynicism has often been recognized as a
means through which police officers cope with stressful situations, it has also been found to
damage police-community relations (Abdollahi, 2002; Anshel, 2002; Brown & Campbell, 1994),
particularly in police agencies emphasizing community oriented policing, cynicism then
becomes a potential source of stress (Abdollahi, 2002; Anshel, 2002; Brown & Campbell, 1994).
Similarly, police officers with authoritarian personality characteristics tend to develop poor
relationships with members of the community in which they serve and experience frustration and
hence more stress (Abdollahi, 2002; Anshel, 2000; Brown & Campbell, 1994; Wilt & Bannon,
1976).

Finally, those who exhibit type A personality characteristics are believed to be more
prevalent in police officers when compared to the general population (Abdollahi, 2002;
Kirmeyer & Diamond, 1985; Davidson & Veno, 1980). Individuals with type A personality
characteristics are typically more competitive, perfectionistic, demanding of themselves
(Abdollahi, 2002; Kirmeyer & Diamond, 1985; Davidson & Veno, 1980), and prone to stress
(Abdollahi, 2002; Cooper & Marshall, 1976).

**Stressors External to the Police Role and Police Agency**

A large body of research has validated that there is a positive relationship between major
life events and increased levels of physical and psychological difficulties (Blau, 1994; Ellison,
2004; Tein, Sandler, & Zautra, 2000). Major life events tend to have beginning and end points
that span a considerable period of time and require a significant life readjustment that involves a
variety of behavioral and/or psychological processes (Blau, 1994; Ellison, 2004; Tein et al.,
2000). That is, the individual experiencing a major life event may be required to adopt a new
identity and this typically takes a significant amount of time (Blau, 1994; Ellison, 2004; Tein et
al., 2000). For instance, someone whose spouse passed away not only faces the process of
bereavement but is also tasked with eventually changing their identity of being married to that of being a widow/widower. Although not exhaustive, the following are events commonly identified as major life events: (1) death of a family member or friend; (2) marriage; (3) divorce; (4) pregnancy; (5) miscarriage; (6) birth of a child; (7) child leaving the home; (8) loss of job; (9) demotion; (10) retirement; (11) bankruptcy; (12) lawsuits; (13) moving; and (14) serious illness/injury (Blau, 1994; Ellison, 2004; Tein et al., 2000).

Similarly, research has shown that daily hassles may lead to higher incidences of physical illness and psychological distress (Blau, 1994; Ellison, 2004; Tein et al., 2000). The constant daily frustrations associated with daily hassles may result in more stress than major life events (Blau, 1994; Ellison, 2004; Tein et al., 2000) due to the fact that they occur so routinely. Again, although not exhaustive, the following are events commonly identified as daily hassles: (1) minor money problems (e.g., overdraft of bank account); (2) car problems/repairs; (3) traffic jams; (4) home repairs; (5) housework/cleaning; (6) errands (e.g., grocery shopping); (7) rude people; (8) loud/fussy children; (9) bad weather; (10) minor illnesses (e.g., flu, cold); and (11) minor squabbles with a spouse/family members/friends (Blau, 1994; Ellison, 2004; Tein et al., 2000).

**Correlates of Police Stress**

Those with an interest in stress research (with police officers or otherwise) have long argued that how an individual experiences stress may be traced back to their own position within surrounding social structures (Brown & Campbell, 1990; Burke, 1989; Deaux & Ullman, 1983; He, Zhao, & Ren, 2005). As Pearlin (1989) points out, these social structures may act as systems of social stratification as in the case of race/ethnicity, gender, age, and social/economic class.
Furthermore, Pearlin (1989) explains that “all too often, people’s background and circumstantial attributes are either overlooked in analysis or received scant attention” (Pearlin, 1989, p. 243). Perhaps in response to this criticism, researchers with an interest in police stress have recently begun to explore certain demographic variables that may have an impact on how an individual police officer experiences stress. Here, variables such as gender, race/ethnicity, department size, special assignments, length of service, and age are beginning to be explored as possible correlates of police stress (Anderson et al., 1995; Anshel, 2000; Aron, 1991; Balkin, 1988; Brooks & Piquero, 1998; Brown & Campbell, 1990; Bullard, 1980; Crank & Caldero, 1991; Deaux & Ullman, 1983; Ellison, 2004; Finn & Tomz, 1997; Gaines, Southerland, & Angell, 1991; Goolkasian, Geddes, & DeJong, 1985; Hageman, 1978; He et al., 2005; Kroes, 1976; Kaslof, 1989; Martin, 1990; Mastrofski, 1981; Pendergrass & Ostrove, 1984; Terry, 1981; Violanti, 1983; Violanti & Aron, 1995; White, Lawrence, & Biggerstaff, & Grubb, 1985).

**Gender**

Although women have been involved in law enforcement for over 100 years (Bell, 1982) and were found to be able to perform the police function as well as men (Ellison, 2004), there is still resistance to the full integration of women police officers in some agencies due to the supposed physical and emotional inferiority of women which then renders them unsuitable for police work (Brown & Campbell, 1994; Ellison, 2004). Women officers often report feeling as if they are perceived as second-class citizens by their male counterparts and are exposed to sexual harassment, ostracism, and outright hostility (Brown & Campbell, 1984; Ellison, 2004). Perhaps it should be no surprise then that women officers have reported higher rates of both psychological and physiological distress when compared to male officers (Brown & Campbell, 1984; Ellison, 2004; Pendergrass & Ostrove, 1984).


*Ethnicity/Race*

To date, other than the limited research that has been conducted on African-American police officers, there is little empirical research available on the stress of ethnic minority police officers (He et al., 2005). Despite a lack of empirical evidence, it has been speculated that “special stresses are placed on the minority officer” (Swanson et al., 1995, p. 193). In fact, it has been hypothesized that African-American police officers may experience higher levels of stress than Caucasian officers and that this stress appears to be the result of a racist society and/or the traditional culture in police departments (Dulaney, 1996; Leinen, 1984).

*Department Size*

The size of the department in which one is employed may play a key role in determining the types of potential stressors a police officer confronts (Ellison, 2004; Kroes, 1976; Mastrofski, 1981; Violanti & Aron, 1995; White & Marino, 1983). Larger, more metropolitan police departments tend to be more bureaucratic and impersonal, leaving police officers with few opportunities to develop supportive relationships with supervisors (Ellison, 2004; Kroes, 1976; Mastrofski, 1981; Violanti & Aron, 1995; White & Marino, 1983). As such, police officers from larger, more metropolitan police departments experience higher stress levels relating to administrative procedures, dealing with the criminal justice system, and supervisory relationships (Ellison, 2004; Kroes, 1976; Mastrofski, 1981; Violanti & Aron, 1995; White & Marino, 1983). On the other hand, police officers from smaller, more rural police departments experience higher levels of stress relating to the limited availability of backup, the outdated and/or poorly maintained necessary equipment, and the fact that gun ownership is typically high in rural communities (Anderson et al., 1995; Ellison, 2004).
Special Assignments

It has been hypothesized that certain special assignments, such as undercover work, homicide, hostage negotiations, sex crimes, and child abuse, are particularly stressful and burdensome for police officers (Ellison, 2004). Again, there is little empirical evidence to support this hypothesis. However, it is believed that special assignments are inherently more stressful because they require the police officer to emotionally distance oneself because the situations typically faced while on special assignment arouse basic human fears of mutilation, trauma, and death (Ellison, 2004).

Length of Service

Another factor that may influence police officer stress is the length of time the officer has served as a law enforcement officer (Burke, 1989; Kaslof, 1989; Violanti, 1983; Violanti & Aron, 1995). Violanti (1983) examined career stages of police officers and discovered that, although stress is noticeable during all career stages, it is more prevalent for police officers at the mid-level of their careers, followed by police officers that had served between one to five years. In further support of this contention, Burke (1989) discovered that a sample of constables at the mid-point of their careers reported the least job satisfaction as well as the highest amounts of stress and burnout. Finally, Violanti and Aron (1995) found that police officers with six to ten years of law enforcement experience reported the highest overall levels of stress.

Age

Similar to length of service, previous research has shown that as police officers age, they build a tolerance toward stressful events so that these events do not impact them as much as when they were younger (Hageman, 1978; Terry, 1981; Violanti & Aron, 1995; White et al.,
Indeed, Brooks and Piquero (1998) discovered that age exerted a negative effect in relation to police officer stress.

**Potential Consequences of Police Stress**

Exposure to any of the aforementioned potential stressors, if left unguided and allowed to accumulate over time, may give birth to any number of physiological, psychological, and/or behavior difficulties for the individual police officer (Abdollahi, 2002; Anderson et al., 1995; Ellison, 2004; Gershon et al., 2009; Morash et al., 2006; Swanson et al., 2005; Violanti, 1983; Violanti et al., 1985). As previously mentioned, stress in policing has been linked to a host of adverse health (i.e., physiological) consequences for the individual police officer, such as an increased risk for coronary heart disease (Abdollahi, 2002; Gershon et al., 2009), cardiovascular disease (Abdollahi, 2002; Franke et al., 1998; Gershon et al., 2009), gastrointestinal disorders (Abdollahi, 2002; Gershon et al., 2009; Morash et al., 2006; Richard & Fell, 1975), diabetes (Abdollahi, 2002; Milham, 1983), headaches (Abdollahi, 2002; Kroes et al., 1974), circulatory disorders (Abdollahi, 2002; Richard & Fell, 1975), cancers of the esophagus, colon, and liver (Abdollahi, 2002; Milham, 1979; Violanti et al., 1986), and mortality (Abdollahi, 2002; Violanti et al., 1986).

Included among the psychological difficulties associated with police stress are anxiety disorders (Abdollahi, 2002; Dietrich & Smith, 1986; Violanti et al., 1986), depression (Abdollahi, 2002; Brown & Campbell, 1990; Dietrich & Smith, 1986; Gershon et al., 2009; Morash et al., 2006; Violanti et al., 1986), posttraumatic stress disorder (PTSD) (Abdollahi, 2002; Carlier et al., 2000; Gersons et al., 2000; Kates, 2008; Reiser & Geiger, 1984; Robinson et al., 1997), as well as job dissatisfaction, burnout, apathy, nervousness, restlessness, anger,
suspiciousness, isolation, boredom, alienation, emotional exhaustion, and emotional distancing (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984).

Behavior difficulties that may plague police officers due to unremitting police stress are drug/alcohol use and/or abuse (Abdollahi, 2002; Dietrich & Smith, 1986; Morash et al., 2006; Violanti et al., 1986), hypervigilance (Gilmartin, 2002), hyperaggressiveness (Gershon et al., 2009; Paton et al., 1999; Violanti et al., 1985), absenteeism (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984), early retirement (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984), increased rates of marital discord including domestic violence, infidelity, and divorce (Morash et al., 2006; Terry, 1981), and even suicide (Abdollahi, 2002; Kates, 2008; Morash et al., 2006).

Regardless of the heightened alertness to police stress and the associated deleterious effects it may have upon police officers, the physiological, psychological, and/or behavioral difficulties associated with stress in policing continue to amass at a distressing pace (Collins & Gibbs, 2003; Gershon et al., 2009). Furthermore, the negative consequences associated with police stress may be magnified for those police officers who are susceptible to stress, particularly those police officers deficient in the requisite skills for coping with stress (Dewe & Guest, 1990; Gershon et al., 2009; Latach & Havlovic, 1992; Thompson et al., 1995; Violanti et al., 1985).

Thus, from the transactional perspective, it makes sense to ask the question of what has been done to assist police officers in developing the requisite skills for coping with stress so as to more successfully navigate one’s career in policing without falling prey to the myriad of potential stressors in policing. In other words, what kinds of programs have police agencies implemented to assist their police officers in the battle against stress? And, have these programs
been effective at assisting police officers in developing skills to mitigate the effects of potential stressors?

Police Stress Management Programs

Historically, police agencies and training academies have placed more of an emphasis on teaching new recruits and current police officers job related skills rather than on training and/or educating them as to the importance of physical health and/or mental health and resiliency (Waters & Ussery, 2007). However by the mid-1980s, stress units and/or other stress management programs designed to ameliorate police stress had been established in many of the largest metropolitan police departments across the U.S. (Swanson et al., 2004). For instance, in a survey of 57 law enforcement agencies across the state of Texas, MacMillan (2009) found that 88% provided mental health services and that 74% provided some form of stress management services. Although intervention models (i.e., models in which assistance is offered after a police officer has developed a stress-related problem) have been employed in the battle against police stress, prevention models (i.e., models in which assistance is offered prior to the development of a stress-related problem) are preferred because they: (1) allow for the assistance of all police officers rather than only the individuals who have developed a stress-related problem; (2) do not necessitate the admission of a problem prior to receiving assistance; and (3) are more cost-effective (Alkus & Padesky 1983; Farmer & Monahan, 1980a; Stinchcomb, 2004). Indeed, both Stinchcomb (2004) and MacMillan (2009) reported that in police agencies across the U.S., preventative stress management training programs are currently the most commonly utilized method for addressing police stress. One such program that has shown promise in assisting
Police officers to more effectively cope with a wide variety of stressors is stress inoculation training (SIT).

Stress Inoculation Training (SIT)

Overview

SIT is a flexible and multifaceted form of cognitive-behavioral therapy (CBT) designed to enhance participants’ coping repertoire and empower them to utilize pre-existing coping skills in response to a wide variety of stressors (Meichenbaum, 2007). SIT has been evaluated in a wide variety of psycho-education, prevention, and remediation programs (Meichenbaum & Deffenbacher, 1988; Sheehy & Horan, 2004). Treatment efficacy has been established for the use of SIT in the treatment of acute time-limited stressors (e.g., surgery, athletic competition or performance, public speaking), chronic intermittent stressors (e.g., military combat, migraine headaches), chronic continual stressors (e.g., cancer, hypertension, psychiatric illness), and stress resulting from exposure to a critical event (e.g., divorce, sexual abuse, job loss) (Meichenbaum, 1996).

It is important to note that the fundamental concept underpinning SIT is that of inoculation (Meichenbaum, 2007). In the medical field, vaccinations involve exposure to weaker forms of a virus which acts to produce antibodies and physically prepares the body to guard against (i.e., inoculates) more moderate and/or severe forms of the virus (Meichenbaum, 2007). Although intervention takes place on the psychosocial level (rather than the physiological and/or biological), SIT was designed to provide participants experience with minor stressors so as to promote psychological preparedness and resilience (Meichenbaum, 2007). Another concept that SIT embraces is the transactional view of stress as espoused by Lazarus and Folkman (1984). As
previously discussed, this model views stress as arising whenever the appraised demands of a situation tax and/or exceed the appraised resources of the individual in meeting those needs, and this is particularly true when the well-being of the individual is appraised as being at stake (Lazarus & Folkman, 1984; Meichenbaum, 2007). That is, stress is defined as a transaction between the person and environment in which the individual perceives environmental demands as taxing or exceeding one’s perceived ability to meet or cope with those environmental demands (Lazarus & Folkman, 1984; Meichenbaum, 2007). As Meichenbaum (2007) explains, “like beauty, stress is in large part in the eye of the beholder” (p. 500). This conceptualization of stress then sets the stage for the teaching of coping skills as well as the application of these skills to increasing larger doses of a wide variety of potential stressors (Jaremko, 1984; Meichenbaum, 2007).

With this in mind, the overall goal of SIT is to prevent the formation of stress related physiological, psychological, and/or behavior difficulties through inoculating participants with coping skills that can be applied across time and to a wide variety of potential stressors (Jaremko, 1984; Meichenbaum, 2007). To do so, SIT is organized into three distinct phases, each of which is conducted during training, but not necessarily in a strict sequence (Meichenbaum, 1993). As Pierce (1995) noted, some aspects of the three phases may overlap, be repeated, or be deemphasized as dictated by participants’ needs and length of training. These three phases include: (1) a conceptual educational phase; (2) a skills acquisition and consolidation phase; and (3) an application and follow-through phase (Jaremko, 1984; Meichenbaum, 2007). In the initial conceptual educational phase of SIT, the goal is to assist participants to re-conceptualize the nature of stress and coping (i.e., adopt the transactional view of stress) (Jaremko, 1984; Meichenbaum, 2007). Here, rather than viewing potential stressors as overwhelming,
uncontrollable, unpredictable, debilitating, and hopeless, participants are assisted in developing a sense of “learned resourcefulness” (Meichenbaum, 2007, p. 502). This is done collaboratively and through the use of a variety of clinical techniques (e.g., Socratic probing, self-monitoring activities, behavioral assignments, and bibliotherapy) (Jaremko, 1984; Meichenbaum, 2007). Progress in this initial phase is determined by the extent to which participants demonstrate an understanding of the transactional view of stress, as well as of their feelings and behavior, and can contribute to a realistic plan for stress and coping (Pierce, 1995).

In the second skill acquisition and consolidation phase of SIT, the focus is upon assisting participants in building, and practicing, a repertoire of coping skills to combat a wide variety of potential stressors (Jaremko, 1984; Meichenbaum, 2007). Here, participants are taught both instrumental (i.e., anxiety management, cognitive restructuring self-instructional training, communication skills, assertiveness training, problem solving skills, anger control, cue-controlled relaxation training) and palliative (i.e., perspective taking, selective attention-diversion procedures, acceptance skills, spiritual rituals) coping skills that are practiced through role-playing, modeling, and imagery techniques (Jaremko, 1984; Meichenbaum, 2007). Rather than requiring specific coping techniques that are to be presented in a certain sequence, SIT allows for the consideration of a variety of coping strategies from which the trainer(s) and participants’ collaboratively choose the ones most likely to be effective in coping with the stressors identified in the initial phase (Meichenbaum, 1985). The point here is that participants are exposed to an array of coping choices and learn to be flexible in applying those choices as situations demand (Meichenbaum, 1985). Furthermore, the availability of multiple coping options increases the likelihood that, given differences in participants’ preferences, an appealing and effective choice will ultimately be made (Pierce, 1995). One caveat to this is that relaxation
is often selected as the first skill to be taught because most people develop proficiency with this skill rather quickly and this early success increases a sense of efficacy and helps to facilitate subsequent training in other coping skills (Meichenbaum & Deffenbacher, 1988).

The third phase of SIT, application and follow-through, emphasizes the application of coping skills in conditions that increasingly approximate the potential stressors or stressful environments (Jaremko, 1984; Meichenbaum, 2007; Saunders, Driskell, Johnston, & Salas, 1996). Again, as in the second phase, this is accomplished through the use of role-playing, modeling, and imagery techniques (Jaremko, 1984; Meichenbaum, 2007). Furthermore, relapse prevention procedures play a central role in this phase and are used to teach participants to view relapses as learning opportunities rather than as failures (Meichenbaum, 2007). To aid in this process and help in coping with the possibility of relapse, participants are asked to anticipate highly stressful situations and to rehearse effective ways in which to deal with them, as well as with potential setbacks (Meichenbaum, 2007; Pierce, 1995). Finally, the follow-through portion of this phase is designed to extend training into the future through the use of techniques such as booster training sessions (Meichenbaum, 2007). An additional follow-up booster session, allows participants to further consolidate coping skills and develop a greater sense of self-efficacy (Meichenbaum & Deffenbacher, 1988). To date, there is little evidence as to the most effective design and/or manner in which these booster sessions are delivered; however, though the timing of these sessions vary case-by-case, most take place at 1-month, 3-month, 6-month, and/or 12-month intervals (Meichenbaum & Deffenbacher, 1988).

As Meichenbaum (2007) points out, one of the strengths of SIT is the flexibility with which it is applied. For instance, SIT has been conducted with individuals, couples, families, and groups (large and small) where the length of the program may be as short as 20 minutes (e.g.,
preparing a patient for surgery) or as long as 40 one-hour weekly/biweekly sessions (e.g., psychiatric patients with persistent mental illness or individuals with chronic medical problems) (Langer, Janis, & Wolfer, 1975; Meichenbaum, 2007; Turk, Meichenbaum, Genest, 1983). SIT groups are typically comprised of between 6 to 12 individuals and are conducted on a short-term (4-22 sessions) basis (Meichenbaum & Deffenbacher, 1988). Here, it is recommended that the SIT group be homogenous in terms of the presenting problem (e.g., stress, anxiety, and pain management) as this allows for sufficient time to address the specific conceptualizations and coping skills most effective in treating that presenting problem (Meichenbaum & Deffenbacher, 1988). In regard to SIT groups, it is also recommended that, in order to accommodate for the needs of each group member, SIT sessions be 75-90 minutes in length (Meichenbaum & Deffenbacher, 1988). Finally, for SIT groups, Meichenbaum (1993) cautions that “the packaging of stress management intervention is critical…in some instances, characterizing the SIT as a form of teaching ‘mental toughness’ or ‘toughening up’ is more appropriate than describing it as a set of stress management procedures” (p. 397).

SIT with Police

Novaco (1977) utilized SIT to assist police officers in controlling and/or managing severe anger. In the educational phase, police officers were provided with a framework from which to understand anger where particular attention was paid to highlighting the importance that the cognitive process plays in anger (Novaco, 1977). In the skills acquisition phase, police officers were divided into small groups in which members were instructed to: (1) describe situations that may spark an angry response; and (2) serve as consultants to one another in finding effective ways to cope with such situations (Novaco, 1977). In the application and follow-through phase,
the small groups engaged in role-play that mimicked the anger provoking situations while group members provided corrective and suggestive feedback (Novaco, 1977). Although no outcome data had been collected on this sample, anecdotal evidence appeared to support the effectiveness of this SIT program in assisting police officers in dealing with anger. Furthermore, it is interesting to note that from a comparison of scores on a reaction-to-provocation inventory that had been done prior to the SIT program, Novaco (1977) concluded that “police officers have no greater disposition for anger than do undergraduate males, and in situations of verbal abuse, they are less prone to being provoked” (p. 331).

Sarason, Johnson, Berberich, and Siegel (1979) applied a CBT approach similar to SIT in order to assist police officers in developing skills to effectively cope with both anxiety and anger. Participants included 18 Seattle Police Academy trainees who completed self-report measures of state-trait anxiety, test anxiety, and hostility and were then randomly assigned to either participate in the stress management program or a short course in abnormal psychology (Sarason et al., 1979). Post-treatment dependent measures included self and observer ratings of trainees’ performance on mock traffic stops and field interrogations (Sarason et al., 1979). In comparison to the control group (i.e., short course in abnormal psychology) of trainees, the performance of the treatment group (i.e., stress management program) on mock traffic stops and field interrogations was rated, by the observers, as superior (Sarason et al., 1979). However, there were no significant differences between the groups on self-ratings of trainee performance on mock traffic stops and field interrogations (Sarason et al., 1979). Thus, Sarason et al. (1979) suggested that stress management for law enforcement officers may be most beneficial for experienced officers and when the focal point of the program is on a limited number of specific situations often encountered by police officers.
Garner (2008) was interested in the stress associated with interpersonal conflict, particularly when dealing with criticism from others as this had been rated as one of the highest occupational stressors that police officers face (based upon a review of the Law Enforcement Stress Survey). In an effort to increase efficacy in dealing with interpersonal stress, Garner (2008) employed the use of 16-hour criticism management/SIT program that included two 1-hour booster sessions (videos) the first of which was conducted one month after the primary training, and the second booster was conducted two months after the primary training. Subjects included 21 police officers that were randomly assigned to one of the three following groups: (1) a 16-hour criticism management/SIT with two 1-hour booster sessions; (2) a 16-hour criminal and civil law course; and (3) a no training control (Garner, 2008). Approximately one month after completing all training, participants provided information on their perceived level of health, perceived level of stress, and self-efficacy in dealing with criticism prone situations (Garner, 2008). Utilizing a three-group post-test only design, Garner (2008) found that those who participated in the 16-hour criticism management/SIT program reported increased efficacy in dealing with interpersonal stress. Here, results indicated that a stress management program aimed at teaching officers to cope with interpersonal stress may be warranted (Garner, 2008).

Oliver and Meyer (2009) assessed the impact that a CBT-based, SIT-like stress management training program has upon law enforcement officers’ self-reported levels of stress and anxiety as well as stress manifested behavior(s). Here, 132 police officers and sheriff’s deputies took part in an 8-hour stress management training program and took both pre- and post-test measures assessing self-reported psychological discomfort, self-reported perceived stress, and behavioral factors (i.e., a behavior scale) (Oliver & Meyer, 2009). Oliver and Meyer (2009) discovered that program participants reported reduced levels of psychological discomfort and
stress at the time of post-testing. Consequently, Oliver and Meyer (2009) suggested that stress management programs do have an impact on officer stress and that law enforcement agencies would be remiss not to consider initiating or continuing stress management training for their officers.

Although results associated with each of these studies appear to support the effectiveness of SIT and/or SIT-type training programs in assisting police officers to cope with a variety of potential stressors, none of these studies is without limitations. Some of the most prevalent limitations associated with police stress research are a failure to include: (1) empirical evidence; (2) a random sample; (3) a control group; (4) both pre- and post-test measures; (5) measures specific to police stress; (6) the use of booster sessions; and (7) no more than one presenting problem (Abdollahi, 2002; Anshel, 2000; Garner, 2008; Meichenbaum, 2007; Novaco, 1977; Oliver & Meyer, 2009; Sarason et al., 1979; Stinchcomb, 2004; Violanti & Aron, 1995). With these limitations in mind, it’s clear to see that: (1) in the Novaco (1977) study, results were not subjected to rigorous empirical validation; (2) in the studies conducted by Novaco (1977) and Oliver and Meyer (2009), the population of potential participants were not randomly sampled; (3) in the studies conducted by Novaco (1977), Garner (2008), and Oliver and Meyer (2009), no control groups were utilized; (4) in the Garner (2008) study, participants were assessed at post-test only; (5) in none of the aforementioned studies were measures specific to police stress administered; (6) the studies by Novaco (1977), Sarason et al. (1979), and Oliver and Meyer (2009) did not employ the use of booster sessions; and (7) the Sarason et al. (1979) study measured both anxiety and anger, whereas the Oliver and Meyer (2009) study measured both anxiety and stress.
Summary

The stress research literature is replete with the conviction that police officers can be taught a variety of coping skills with which to mitigate the deleterious effects of stress (Anshel, 2000; Fain & McCormick, 1988; Lawrence, 1984; Oliver & Meyer, 2009; Stinchcomb, 2004; Violanti & Aron, 1995). In fact, Fain and McCormick (1988) contend that it is “increasingly apparent that departments will have to place into effect some type of program to relieve…stress” (p. 27). Again, it is clear that preventative stress management training programs have become a widespread response in dealing with police stress in police agencies. However, despite evidence suggesting promising results, the vast majority of these conclusions have been predicated upon anecdotal, subjective, and impressionistic data. Thus far, other than the work conducted by Sarason et al. (1979), Garner (2008), and Oliver and Meyer (2009), there is virtually no empirical evidence in the literature base describing the efficacy of SIT and/or SIT-type preventative stress management training programs and these studies are not without their limitations. As such, Patterson (2003) cautions that “more empirical evidence demonstrating the efficacy of stress management programs on psychological well-being and the utility of cognitive approaches to stress management is needed” (p. 224) and states “stress management programs designed for police officers should consider the number of stressful life events police officers experience, and that such programs should not focus exclusively on work-related events and situations” (p. 224).

Purpose and Hypotheses of the Current Study

In an effort to both bridge the chasm in the current literature base and address limitations commonly associated with this line of inquiry, the current study examined the impact that a
comprehensive SIT program had on a small-sized city police department in the southwest of the U.S. Specifically, the primary aim of the current study was to investigate whether a comprehensive SIT program had a beneficial impact upon police officer self-reported levels of stress. With this in mind, it was hypothesized that:

1. Police officers who participated in the SIT plus booster program would report significantly lower levels of organizational stress than police officers who participated in the SIT program and that police officers who participated in the SIT program would report significantly lower levels of organizational stress than police officers who participated in the delayed training;

2. Police officers who participated in the SIT plus booster program would report significantly lower levels of operational stress than police officers who participated in the SIT program and that police officers who participated in the SIT program would report significantly lower levels of operational stress than police officers who participated in the delayed training;

3. Police officers who participated in the SIT plus booster program would report significantly lower levels of perceived life stress than police officers who participated in the SIT program and that police officers who participated in the SIT program would report significantly lower levels of perceived life stress than police officers who participated in the delayed training;

4. Police officers who participated in the SIT plus booster program would report significantly lower levels of total mood disturbance than police officers who participated in the SIT program and police officers who participated in the SIT program would report
significantly lower levels of total mood disturbance than police officers who participated in the delayed training.

A secondary purpose of the current study was to evaluate scores on the six subscales (i.e., depression, vigor, confusion, tension, anger, and fatigue) that comprise total mood disturbance on the profile of mood states-short form (POMS-SF). Here, it was hypothesized that:

1. Police officers who participated in the SIT plus booster program would report significantly lower levels of depression than police officers who participated in the SIT program and police officers who participated in SIT program would report significantly lower levels of depression than police officers who participated in the delayed training;

2. Police officers who participated in the SIT plus booster program would report significantly higher levels of vigor than police officers who participated in the SIT program and police officers who participated in SIT program would report significantly higher levels of vigor than police officers who participated in the delayed training;

3. Police officers who participated in the SIT plus booster program would report significantly lower levels of confusion than police officers who participated in the SIT program and police officers who participated in SIT program would report significantly lower levels of confusion than police officers who participated in the delayed training;

4. Police officers who participated in the SIT plus booster program would report significantly lower levels of tension than police officers who participated in the SIT program and police officers who participated in SIT program would report significantly lower levels of tension than police officers who participated in the delayed training;
5. Police officers who participated in the SIT plus booster program would report significantly lower levels of anger than police officers who participated in the SIT program and police officers who participated in SIT program would report significantly lower levels of anger than police officers who participated in the delayed training;

6. Police officers who participated in the SIT plus booster program would report significantly lower levels of fatigue than police officers who participated in the SIT program and police officers who participated in SIT program would report significantly lower levels of fatigue than police officers who participated in the delayed training.

A third, and final, purpose of the current study was to evaluate the correlates (i.e., age, number of years of service, gender, ethnicity, and special assignment) of police stress. Here, it was hypothesized that:

1. Age would be negatively correlated with self-reported levels of organizational stress, operational stress, perceived life stress, and total mood disturbance;

2. Length of service would be negatively correlated with self-reported levels of organizational stress, operational stress, perceived life stress, and total mood disturbance;

3. Male police officers would report significantly lower levels of organizational stress, operational stress, perceived life stress, and total mood disturbance than female police officers;

4. Non-minority police officers would report significantly lower levels of organizational stress, operational stress, perceived life stress, and total mood disturbance than minority police officers;
5. Police officers with no special assignment would report significantly lower levels of organizational stress, operational stress, perceived life stress, and total mood disturbance than police officers with any special assignment.
CHAPTER 3
METHOD
Participants

Approximately 132 police officers from a small-sized police department in the southwestern United States were recruited to participate in the current study. Twenty-four participants volunteered to take part in the stress inoculation training (SIT) study. Data were screened for missing data and univariate outliers. Data was checked to ensure there were no missing cases on the following variables of interest for pre, post, and follow-up: organizational stress scores (PSQ-Org), operational stress scores (PSQ-Op), perceived life stress scores (PSS-10), and total mood disturbance scores (POMS-SF); no missing data was found. The presence of univariate outliers was tested by creating standardized residuals for the variables of interest and examining cases for values that fell above 3.29 and values that fell below -3.29 (Tabachnick & Fidell, 2012); two outliers were found. However, to prevent sample size reduction, the two outliers were not removed. The data from all 24 participants were used in the final data analyses.

There was an equal number of participants (n = 8, 33%) per treatment group (delayed training, SIT program, and SIT plus booster program). The majority of participants were male (n = 19, 79%), police officers (n = 18, 75%), and Caucasian (n = 20, 83%). Eight (33%) participants held a bachelor’s degree, and 13 (54%) participants were not involved in any special assignment. Most participants had not previously served in the military (n = 19, 79%) and were currently married (n = 19, 79%). Many participants were married to their current spouse prior to joining the police force (n = 11, 46%). The majority of spouses/significant others had a job (n = 16, 67%) and were not police officers (n = 23, 96%) themselves. Of the participants that had a spouse/significant other working in law enforcement, none worked in the same police
department as the participants \( n = 24, 100\% \). Eight (33\%) spouses/significant others held a bachelor’s degree. Frequencies and percentages for participants’ demographics are presented in Table 1.

Table 1

*Frequencies and Percentages for Participants’ Demographics*

<table>
<thead>
<tr>
<th>Demographics</th>
<th>( n )</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td>SIT</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td>SIT Plus Booster</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>19</td>
<td>79</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td><strong>Race</strong></td>
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<td></td>
</tr>
<tr>
<td>Caucasian</td>
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<td>83</td>
</tr>
<tr>
<td>African-American</td>
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<td>8</td>
</tr>
<tr>
<td>Hispanic/Latino(a)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td><strong>Highest level of education</strong></td>
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<td></td>
</tr>
<tr>
<td>High school/GED</td>
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<td>4</td>
</tr>
<tr>
<td>Some college</td>
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<td>29</td>
</tr>
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</tr>
<tr>
<td>Bachelor’s degree</td>
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<td>33</td>
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<tr>
<td>Master’s degree</td>
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<td>21</td>
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<tr>
<td>Professional degree</td>
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<td><strong>Rank</strong></td>
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<tr>
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<tr>
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<tr>
<td>SWAT</td>
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<td>13</td>
</tr>
<tr>
<td>Training officer</td>
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<td>21</td>
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<tr>
<td>Neighborhood resource officer</td>
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<td>4</td>
</tr>
<tr>
<td>Vice</td>
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<td>4</td>
</tr>
<tr>
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<td>4</td>
</tr>
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<td>54</td>
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<tr>
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<td></td>
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<tr>
<td>No</td>
<td>19</td>
<td>79</td>
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<tr>
<td><strong>Marital status</strong></td>
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<td></td>
</tr>
<tr>
<td>Married</td>
<td>19</td>
<td>79</td>
</tr>
</tbody>
</table>

*(table continues)*

52
Participants’ ages ranged from 28 to 58, with mean ($M$) = 38.92 and standard deviation ($SD$) = 6.72. Number of years in current department ranged from 5 to 30, with $M$ = 11.33 and $SD$ = 6.82. Number of years in any department ranged from 5 to 35, with $M$ = 12.29 and $SD$ = 7.21. Number of times married ranged from 0 to 3, with $M$ = 1.25 and $SD$ = 0.68. Number of children living in home ranged from 0 to 5, with $M$ = 1.21 and $SD$ = 1.25. Means and standard deviations for participants’ demographics are presented in Table 2.
### Table 2

**Means and Standard Deviations for Participants’ Demographics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>38.92</td>
<td>6.72</td>
</tr>
<tr>
<td>Number of years in current department</td>
<td>11.33</td>
<td>6.82</td>
</tr>
<tr>
<td>Number of years in any department</td>
<td>12.29</td>
<td>7.21</td>
</tr>
<tr>
<td>Number of times married</td>
<td>1.25</td>
<td>0.68</td>
</tr>
<tr>
<td>Number of children living in home</td>
<td>1.21</td>
<td>1.25</td>
</tr>
</tbody>
</table>

### Procedures

Following approval from the University of North Texas (UNT) Institutional Review Board (IRB) for Human Subjects, volunteers were solicited through in-person visits to various work group meetings (e.g., roll-call during each shift) at police department headquarters. During these meetings, the police officers were introduced to the rationale/purpose of the current study, issues pertinent to research methodology, the exclusionary criteria of having a history of mental health difficulties, as well as confidentiality and privacy issues (see Appendix A). Police officers were advised that if they have had no history of mental health difficulties and were interested in participating in the current study, they should notify the investigator immediately or contact him via e-mail and/or phone within two weeks. Police officers that agreed to participate were provided with an informed consent form (see Appendix B) which was read and explained to them prior to being signed.
Subsequent to consent being provided, participants were assigned an identification number and assessed (i.e., pre-test) for baseline measurement through administration of a questionnaire packet containing a host of measures related to demographics (see Appendix C), potential organizational stressors, potential operational/occupational stressors, potential life event stressors, and mood states. The baseline measurements, which took 15-20 minutes to complete, were obtained at police department headquarters over a period of approximately two weeks.

On completion of baseline data gathering, through use of a table of random numbers (Borg & Gall, 1983), participants were randomly assigned to one of the following three treatment conditions: (1) delayed training; (2) SIT program; and (3) SIT plus booster program. The designation of delayed for the control group indicates that the SIT program or SIT plus booster program will be repeated for the police officers comprising this group if they express interest in participating in these programs. On completion of the SIT program, members of each of the groups were re-assessed (i.e, first post-testing) through the administration of the aforementioned assessment battery. Those participants who took part in the SIT program (including those selected to participate in the booster sessions) were post-tested at the conclusion of the final (i.e., fourth) session of the SIT program. Members of the delayed training group were post-tested that same week at police department headquarters. After approximately one month, participants assigned to the SIT program plus booster session group were contacted and the booster session, which lasted between 20-30 minutes, was conducted over the phone at the participants’ convenience. Approximately one week after completing the booster sessions, all participants were contacted so as to take part in the second and final post-test assessment. Again, these were conducted at police headquarters.
Measures

Demographics

A demographic questionnaire (see Appendix C) was developed for the current study to assess for gender, age, race/ethnicity, highest level of education completed, number of years as a sworn police officer in the current department, overall number of years as a sworn police officer, current rank, special assignments, military service, marital status, number of times married, married prior to joining the police force, number of children living in the home, and questions regarding a spouse’s/significant other’s job and highest level of education completed.

Independent Variables/Treatment Conditions

Delayed Training

Although members of the delayed training group did not participate in either the SIT program or booster sessions, the designation of delayed for the training/control group indicated that these programs may be repeated in the future for the police officers comprising this group who completed all facets of the current study and expressed an interest in participating in these programs.

SIT Program

This SIT program (see Appendix D for a brief outline) consisted of four, 90-minute sessions that took place over the course of one month and were adapted from the SIT models presented in the works of: Kiselica, Baker, Thomas, and Reedy (1994); Meichenbaum and Deffenbacher (1988); and Sheehy and Horan (2004). The initial conceptual education phase session began with self-introductions, a statement regarding the rationale of the study, an overview of the SIT training program, and a discussion regarding the importance of
confidentiality, being on time, and expectations of facilitator and group member participation. Next, a thorough discussion regarding stress, potential sources of stress (i.e., stressors), and stress-related symptoms was conducted. Here, the emphasis was on those categories of stressors (i.e., occupational/operational, organizational, intra/interpersonal, and those external to the police role/police agency) and stress-related symptoms (i.e., physiological, psychological, and behavioral) that have been recognized as particularly relevant to police officers. Following this discussion, group members were asked to generate examples of stress-inducing situations. After group members shared their examples aloud and these examples were recorded for use in future group discussions, the transactional model of stress and coping was explained. Here, the emphasis was on providing group members with a framework from which to reconceptualize stress into more benign terms that are amenable to change. This initial session concluded with a discussion regarding goals and/or expectations that group members may have for the remainder of the SIT program.

From the second session through the end of the SIT program, the skills acquisition and consolidation phase overlapped with the application and follow-through phase in that once a new skill had been practiced in session, attention was directed toward applying the coping skills to real-world situations. This second session began with a brief review of the subject matter from the initial session and any questions that group members had regarding that material were answered. Next, group members were provided with an overview of the wide variety of coping skills (i.e., instrumental and palliative) that can be utilized to combat stress. Group members were then introduced to the notion of relaxation and led through diaphragmatic breathing exercises adapted from the work of Greenberg (2009) and progressive muscle relaxation adapted from the work of Greenberg (2009). Next, group members were introduced to cue-controlled
relaxation where they learned to associate the relaxation response with a word or phrase and how to elicit relaxation in stress-inducing situations by repeating their chosen word or phrase. After practicing these relaxation techniques, group members were led through guided imagery so as to rehearse how these relaxation techniques might be utilized in any of the stress-inducing situations generated by group members in the initial session. Next, group members were asked to share their reaction(s) to the relaxation techniques and provided the opportunity to ask any additional questions they had in regard to these techniques. Finally, this second session concluded by encouraging group members to practice progressive muscle relaxation prior to going to bed each night and after feeling competent in performing this skill, to then practice cue-controlled relaxation. Furthermore, group members were encouraged to take note of any successes and/or difficulties they experience during practice of these skills.

The third session began with a brief review of relaxation procedures discussed in the previous session and any questions that group members had regarding relaxation techniques and their applicability to combating stress were answered. Furthermore, the progressive muscle relaxation exercise from the previous session was repeated. Next, cognitive restructuring was introduced, emphasizing how self-defeating automatic thoughts and/or irrational beliefs may lead to stress-inducing behaviors and how replacing self-defeating automatic thoughts and/or irrational beliefs may lead to stress-busting behaviors. Group members were then asked to describe how they might apply cognitive restructuring to the stress-inducing situations that they had generated in the first session. Here, the group facilitator assisted group members in identifying cognitive procedures (i.e., appraisal and recall) and the cognitive structures (i.e., schemata and core belief systems) related to their experiencing of stress. Next, group members were led through guided imagery so as to rehearse how cognitive restructuring might be utilized
in any of the stress-inducing situations that they had generated in the first session. Next, group members were asked to share their reaction(s) to cognitive restructuring and provided the opportunity to ask any additional questions they had in regard to this technique. Finally, the third session concluded by encouraging group members to continue practicing progressive muscle relaxation and cue-controlled relaxation. Furthermore, group members were encouraged to keep practicing identifying and disputing self-defeating automatic thoughts and/or irrational beliefs through the use of a cognitive restructuring journal that has been adapted from the work of Greenberger and Padesky (1995).

The fourth and final session began with review of what had transpired during the previous three sessions and any questions that group members had were answered. Next, group members were asked to participate in role-play scenarios that were developed from the stress-inducing situations that had been generated in the first session. Subsequent to each simulated scenario, role-play participants received constructive feedback from group members as well as the group facilitator regarding the effectiveness of their responses in reducing the impact of the potentially stress-inducing situation. Each group member participated in one role-play. Next, relapse prevention was discussed. Here, particular emphasis was placed upon assisting group members in developing a plan to help them identify and successfully deal with factors that may contribute to ineffective utilization of coping skills in combating stress. Group members were provided the opportunity to process their experience in the SIT program and ask any additional questions. The first round of post-testing was then conducted and group members were also asked to provide feedback to the group facilitator through the SIT evaluation form (see Appendix E). To end the SIT program, group members were thanked for their participation and reminded that some of them had been randomly selected to participate in subsequent booster sessions and
that those who were in this group would be contacted (by phone) in approximately one month’s
time.

*SIT Plus Booster Program*

Although not fully motivational interviewing (MI) adherent, the structure/content of each
booster session was based upon the underlying tenets of MI. Miller and Rollnick (2002) define
MI as a directive, client-centered therapeutic style for enhancing intrinsic motivation to change
behavior through exploration and resolution of ambivalence. MI conceptualizes ambivalence as
being both expected and normal; that is, everyone has reasons for and against their desire for a
particular behavior change (Miller & Rollnick, 2002). Furthermore, motivation for behavior
change is not viewed as a dichotomous and/or linear process. Instead, motivation for behavior
change is seen as being a dynamic process in which an individual’s motivation may fluctuate
through time and from one situation to another (Miller & Rollnick, 2002). As such, the primary
goal of MI is to explore and resolve one’s ambivalence towards behavior change and elicit
change talk so as to facilitate future behavior change and movement towards achieving one’s
personal goals (Miller & Rollnick, 2002).

In the current study, the booster session (see Appendix F for a booster session protocol)
provided an opportunity for SIT plus booster program group members to revisit, troubleshoot,
and/or fine-tune coping skills discussed in the SIT program. Furthermore, the booster acted to
enhance one’s intrinsic motivation to apply coping skills in potentially stressful situations while
providing participants with a heightened sense of self-efficacy. Each member in this treatment
condition received one booster session lasting approximately 20 to 30 minutes and that were
conducted over the phone at a time convenient for the participant. Telephone contact was chosen
as the method from which to conduct the booster sessions as this type of contact has been shown
to be feasible, promising, and one of the only ways to reach study participants (Sussman, Sun, Rohrbach, & Spruijt-Metz, 2011). Furthermore, telephone boosters have become a popular treatment modality from which to deliver information, and they have achieved positive results in a number of areas including tobacco prevention and cessation, prevention of at-risk drinking, and prenatal substance abuse treatment (Sussman et al., 2011).

MI was chosen as the foundation for the booster session because: (1) the installation of a motivation to change represents a core objective of MI (Miller & Rollnick, 2002; Sussman et al., 2011); and (2) MI is a CBT-based therapeutic intervention strategy that coincides with the principles of SIT. In MI, the motivation to change is engendered through the development of a discrepancy between current behavior and future goals (i.e., there is a perceived discrepancy between where an individual is and where he/she would like to be (Miller & Rollnick, 2002; Sussman et al., 2011). The type of support offered through an MI-based booster session, may encourage those who participate to identify self-perceived difficulties in applying effective coping skills to combat stress while respecting the participants’ need for autonomy and decision making.

With this in mind, the booster session was started by introducing the caller (myself), reminding the participant about the SIT program, and reiterating that participation is strictly confidential. Next, the participant was thanked for volunteering his/her time and asked permission to spend another 20 to 30 minutes talking together. After consenting, the participant was told the purpose of the booster session and asked if he/she has any questions. Next, contents of the SIT program were reviewed with particular emphasis upon the stress-inducing situations identified by SIT program group members and the skills from which to cope with these stress-inducing situations. Next, the overall scores that the participant received on each measure
contained in the questionnaire packet were revealed. Subsequent to revealing these scores, participants were asked: (1) for their reaction to hearing these scores; and (2) to discuss what this information might mean for them in regards to their ability to cope with stress. Next, scaling questions (i.e., importance and confidence rulers) were utilized to ask participants how important it is that they make changes in regard to how they cope with stress as well as how confident they are in enacting those changes. Answers to the scaling questions were then used to facilitate a discussion regarding what, if any changes, the participant might make in how they approach managing stress. Finally, the booster session was summarized with an emphasis upon the participant’s strengths as well as any agreement that might have been made regarding change strategies (i.e., more effective use of stress coping skills).

**Dependent Variables**

*Organizational Police Stress Questionnaire (PSQ-Org)*

The PSQ-Org is a 20-item, self-report measure designed to assess organizational (i.e., job context) stressors as they relate to police officers (McCreary & Thompson, 2006; Page & Jacobs, 2011; Shane, 2010). Cronbach’s alpha for the PSQ-Org was reported to be > .90 and the measure demonstrates construct, discriminant, and concurrent validity (McCreary & Thompson, 2006; Page & Jacobs, 2011; Shane, 2010). Police officers responded to the questions on a 7-point, Likert-type scale, with answers ranging from 1 (*no stress at all*) to 7 (*a lot of stress*). The total PSQ-Org scores was created by the summation of PSQ-Org Items 1 – 20.

*Operational Police Stress Questionnaire (PSQ-Op)*

The PSQ-Op is a 20-item, self-report measure designed to assess operational (i.e., job content) stressors as they relate to police officers (McCreary & Thompson, 2006; Page & Jacobs,
Cronbach’s alpha for the PSQ-Op was reported to be > .90 and the measure demonstrates construct, discriminant, and concurrent validity (McCreary & Thompson, 2006; Page & Jacobs, 2011; Shane, 2010). Police officers responded to the questions on a 7-point, Likert-type scale, with answers ranging from 1 (no stress at all) to 7 (a lot of stress). The total PSQ-Op score was created by the summation of PSQ-Op Items 1 – 20.

**Perceived Stress Scale-10 (PSS-10)**

The PSS-10 is a 10-item, self-report measure designed to assess the degree to which a variety of life situations are perceived as being stressful with a particular emphasis upon how unpredictable, uncontrollable, and overwhelming participants view their lives as being (Cohen & Williamson, 1988; Page & Jacobs, 2011). Cronbach’s alpha for the PSS-10 is reported to be > .84 (Cohen & Williamson, 1988; Page & Jacobs, 2011). Participants were asked to indicate how often they have felt or thought a certain way within the past month, where responses were based upon a 5-point, Likert-type scale, and answers range from 0 (never) to 4 (very often). Four items were worded in a positive direction and are reverse-scored. Responses to the ten items were then summed to create a psychological stress score, with higher scores indicating more psychological stress (Cohen & Williamson, 1988; Page & Jacobs, 2011). The total PSS-10 score was created by the summation of PSS-10 Items 1 – 10.

**Profile of Mood States – Short Form (POMS-SF)**

The POMS-SF is an abbreviated, factor analytically derived measure to assess for mood state over the past week and for which adequate to very good psychometric properties have been reported (Curran, Andrykowski, & Studts, 1995). The POMS-SF consists of 37 descriptive phrases that are to be rated on 5-point, Likert-type scale ranging from 0 (not at all) to 4 (extremely). The POMS-SF yields a total mood disturbance (TMD) score as well as scores for
the following six subscales: (1) tension-anxiety; (2) depression-dejection; (3) fatigue-inertia; (4) vigor-activity; (5) confusion-bewilderment; and (6) anger-hostility. Cronbach alphas for the six subscales have been reported to range from .80 to .91 (Curran et al., 1995). The TMD scores on the POMS-SF was created by the summation of POMS-SF Items 1 – 37 (minus the Vigor subscale; Items 5, 9, 13, 24, 32, 35). The depression subscale score was created by summation of Items 4, 8, 12, 14, 20, 23, 28, and 33. The vigor subscale score was created by the summation of Items 5, 9, 13, 24, 32, and 35. The confusion subscale score was created by the summation of Items 6, 17, 30, 34, and 36. The tension subscale score was created by the summation of Items 1, 10, 15, 16, 22, and 27. The anger subscale score was created by the summation of Items 2, 7, 11, 19, 21, 25, and 31. The fatigue subscale score was created from the summation of Items 3, 18, 26, 29, and 37. On the POMS-SF, lower scores are indicative of more stable moods, while higher scores are more indicative of mood disturbance.

**Data Analysis**

The current study was designed to determine whether SIT program or SIT plus booster program produced a difference in the self-reported levels of stress of police officers. This was accomplished through the use of a multi-group, pre-test post-test, design. Initially, the data were screened for missing values. Once the data were complete, total scores for each measure were obtained and then the means, standard deviations, and measures of the distributional properties (i.e., skewness and kurtosis) were computed. Correlations among all the total scores and internal consistency reliabilities were then calculated.

As multivariate analysis of covariance (MANCOVA) is recognized as the preferred method for analysis of pre-test post-test data, the effectiveness of the various treatment
conditions (i.e., delayed training, SIT program, SIT plus booster program) in the current study was examined via MANCOVA. MANCOVA is an extension of multivariate analysis of variance (MANOVA) which allows for the exploration of differences between groups while controlling for the possible influence of a covariate (Tabachnick & Fidell, 2012). Through removal of the possible influence of a covariate, MANCOVA may increase the likelihood that difference will be detected between groups (i.e., increases the power or sensitivity of the F-test) (Tabachnick & Fidell, 2012). In the current study, to assess whether self-reported level of organizational (as measured by the PSQ-Org), operational (as measured by the PSQ-Op), total mood disturbance (as measured by the POMS-SF), depression (as measured by the POMS-SF Depression subscale), vigor (as measured by the POMS-SF Vigor subscale), confusion (as measured by the POMS-SF Confusion subscale), tension (as measured by the POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale) was impacted by participation in the SIT program or SIT plus booster program, a MANCOVA was conducted. If the MANCOVA was statistically significant, individual analyses of covariance (ANCOVAs) were conducted. If the individual ANCOVAs were statistically significant, pair-wise comparisons were conducted to determine where the significant differences occurred.

To assess whether self-reported level of perceived life stress (as measured by the PSS-10) was impacted by participation in the SIT program or SIT plus booster program, a MANCOVA was proposed. However, due to the violation of the homogeneity of regression slopes, the covariate, Pre-PSS-10 scores, were removed from the analysis. As such, a MANOVA was conducted. If the MANOVA was statistically significant, individual analyses of variance (ANOVAs) were conducted. If the ANOVAs were statistically significant, pair-wise comparisons were conducted to determine where the significant differences occurred. To assess
the relationship between specific demographic variables (i.e., age and length of service) and self-reported level of organizational (as measured by the PSQ-Org), operational (as measured by the PSQ-Op), perceived life stress (as measured by the PSS-10), total mood disturbance (as measured by the POMS-SF), depression (as measured by the POMS-SF Depression subscale), vigor (as measured by the POMS-SF Vigor subscale), confusion (as measured by the POMS-SF Confusion subscale), tension (as measured by the POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale), Pearson correlations were conducted as age and length of service were treated as continuous variables. To assess the relationship between specific demographic variables (i.e., gender, ethnicity, and special assignment) and self-reported level of organizational (as measured by the PSQ-Org), operational (as measured by the PSQ-Op), perceived life stress (as measured by the PSS-10), total mood disturbance (as measured by the POMS-SF), depression (as measured by the POMS-SF Depression subscale), vigor (as measured by the POMS-SF Vigor subscale), confusion (as measured by the POMS-SF Confusion subscale), tension (as measured by the POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale) a MANCOVA was proposed as gender, ethnicity, and special assignment were treated as grouping variables.
CHAPTER 4

RESULTS

The variables of interest (i.e., the organizational police stress questionnaire, PSQ-Org; the operational police stress questionnaire, PSQ-Op, the perceived stress scale, PSS-10; and, the profile of mood states-short form, POMS-SF) were created for pre, post, and follow-up in the same manner. Organizational stress scores were created by the summation of PSQ-Org Items 1 – 20, where responses ranged from $0 = \text{no stress at all}$ to $7 = \text{a lot of stress}$. Operational stress scores were created by the summation of PSQ-Op Items 1 – 20, where responses ranged from $0 = \text{no stress at all}$ to $7 = \text{a lot of stress}$. Perceived life stress scores were created by the summation of PSS-10 Items 1 – 10, where responses ranged from $0 = \text{never}$ to $4 = \text{very often}$. The total mood disturbance (TMD) score was created by the summation of POMS-SF Items 1 – 37 (minus the Vigor subscale; Items 5, 9, 13, 24, 32, 35) where responses ranged from $0 = \text{not at all}$ to $4 = \text{extremely}$. In regards to pre-scores: PSQ-Org scores ranged from 28 to 100, with $M = 60.33$ and $SD = 20.31$; PSQ-Op scores ranged from 22 to 90, with $M = 56.42$ and $SD = 20.88$; PSS-10 scores ranged from 3 to 29, with $M = 14.00$ and $SD = 6.30$; and POMS-SF scores ranged from 16 to 98, with $M = 42.46$ and $SD = 20.58$. In regards to post-scores: PSQ-Org scores ranged from 23 to 103, with $M = 62.00$ and $SD = 23.00$; PSQ-Op scores ranged from 20 to 90, with $M = 55.17$ and $SD = 20.89$; PSS-10 scores ranged from 6 to 25, with $M = 12.29$ and $SD = 4.78$; and POMS-SF scores ranged from 13 to 94, with $M = 40.67$ and $SD = 20.20$. In regards to follow-up scores: PSQ-Org scores ranged from 30 to 100, with $M = 53.67$ and $SD = 20.35$; PSQ-Op scores ranged from 20 to 92, with $M = 48.46$ and $SD = 18.09$; PSS-10 scores ranged from 1 to 24, with $M = 12.63$ and $SD = 5.64$; and POMS-SF scores ranged from 17 to 66, with $M = 38.71$ and $SD = 13.09$. Means and standard deviations for the variables of interest for pre, post, and follow-up are presented in Table 3.
Table 3

Means and Standard Deviations for Organizational Stress, Operational Stress, Perceived Life Stress, and Total Mood Disturbance Scores for Pre, Post, and Follow-up

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre</th>
<th>Post</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>PSQ-Org</td>
<td>60.33</td>
<td>20.31</td>
<td>62.00</td>
</tr>
<tr>
<td>PSQ-Op</td>
<td>56.42</td>
<td>20.88</td>
<td>55.17</td>
</tr>
<tr>
<td>PSS-10</td>
<td>14.00</td>
<td>6.30</td>
<td>12.29</td>
</tr>
<tr>
<td>POMS-SF</td>
<td>42.46</td>
<td>20.58</td>
<td>40.67</td>
</tr>
</tbody>
</table>

Preliminary Analysis

Internal consistency was conducted on the variables of interest to establish reliability. Reliability determines if the scores computed by the survey instrument are useful and significant, or in other words, reliable. The Cronbach’s alpha test of reliability provides mean correlation, as alpha coefficients, between each pair of items and the number of items in a scale (Brace, Kemp & Snelgar, 2006). According to the rules of thumbs suggested by George and Mallery (2010), alpha coefficients range from unacceptable to excellent where $>.9$ – excellent, $>.8$ – good, $>.7$ – acceptable, $>.6$ – questionable, $>.5$ – poor, and $\leq .5$ – unacceptable. All alpha coefficients ranged from acceptable ($\alpha > .70$) to excellent ($\alpha > .90$), where the lowest coefficient was post-PSS-10 scores at $\alpha = .75$ and the highest coefficients were pre-POMS-SF scores and post-PSQ-Org scores at $\alpha = .94$. The alpha coefficients for the variables of interest are presented in Table 4.
Table 4

*Cronbach Alpha Reliabilities for Organizational Stress, Operational Stress, Perceived Life Stress, and Total Mood Disturbance Scores for Pre, Post, and Follow-up*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre</th>
<th>Cronbach α</th>
<th>Items</th>
<th>Post</th>
<th>Cronbach α</th>
<th>Items</th>
<th>Follow-up</th>
<th>Cronbach α</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ-Org</td>
<td></td>
<td>.91</td>
<td>20</td>
<td>.94</td>
<td>20</td>
<td>.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSQ-Op</td>
<td></td>
<td>.92</td>
<td>20</td>
<td>.93</td>
<td>20</td>
<td>.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSS-10</td>
<td></td>
<td>.81</td>
<td>10</td>
<td>.75</td>
<td>10</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POMS-SF</td>
<td></td>
<td>.94</td>
<td>37</td>
<td>.93</td>
<td>37</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis 1

Police officers who participated in the stress inoculation training (SIT) plus booster program would report significantly lower levels of organizational stress than police officers who participated in the SIT program and those police officers who participated in the SIT program would report significantly lower levels of organizational stress than police officers who participated in the delayed training. That is, do police officers report significantly different levels of organizational stress by group (delayed training vs. SIT program vs. SIT plus booster program)?

H₀₁: There are no significant mean differences on organizational stress by group.

Hₐ₁: There are significant mean differences on organizational stress by group.

To assess Hypothesis 1, a multivariate analysis of covariance (MANCOVA) was proposed to assess if there are significantly mean differences on post and follow-up PSQ-Org
scores by group while controlling for pre-PSQ-Org scores; if the model is significant, the individual analysis of covariance (ANCOVAs) were interpreted. Prior to conducting the analysis, the assumptions of normality, multivariate outliers, homogeneity of regression slopes, absence of multicollinearity, equality of covariance, and equality of variance were assessed. Normality for the three scores was assessed with three Kolmogorov-Smirnov (KS) tests; the results were not significant, thus meeting the assumption of normality. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA for hypothesis one with four total variables (group, pre, post, and follow-up PSQ-Org scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-PSQ-Org scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level, indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, verifying the assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the test was only significant for post-PSQ-Org scores. Due to this violation, a more stringent alpha level ($\alpha = .025$) was set for determining significance in the individual ANCOVA on post-PSQ-Org scores (Tabachnick & Fidell, 2012).

The results of the MANCOVA on post and follow-up PSQ-Org scores by group (delayed training vs. SIT program vs. SIT plus booster program) while controlling for pre-PSQ-Org scores
were statistically significant, $F(4, 38) = 2.97$, $p = .031$, partial $\eta^2 = .24$, indicating that post and follow-up scores were significantly different by group while controlling for pre-PSQ-Org scores. The MANCOVA’s effect size (partial $\eta^2$) of .24 indicates a medium difference among the three group levels (Morgan, Leech, Gloekner & Barrett, 2007). Of the two dependent variables, only one was found to be significant: follow-up PSQ-Org scores.

The ANCOVA on post-PSQ-Org scores (at $\alpha = .025$) by group (control vs. SIT vs. SIT plus booster) while controlling for pre-PSQ-Org scores was not statistically significant, $F(2, 20) = 2.09$, $p = .150$, partial $\eta^2 = .17$, suggesting that post-PSQ-Org scores were not significantly different by group.

The ANCOVA on follow-up PSQ-Org scores by group (control vs. SIT vs. SIT plus booster) while controlling for pre-PSQ-Org scores was statistically significant, $F(2, 20) = 4.44$, $p = .025$, partial $\eta^2 = .31$, indicating that follow-up PSQ-Org scores were significantly different by group. The ANCOVA’s effect size (partial $\eta^2$) of .31 indicates a medium difference among the three group levels (Morgan, Leech, Gloekner & Barrett, 2007). Pair-wise comparisons were conducted to determine where the significant differences lie: the delayed training group ($M = 63.86$) had significantly higher follow-up PSQ-Org scores than the SIT group ($M = 42.11$). No other significant differences were found. The null hypothesis - there are no significant mean differences on organizational stress by group – can be rejected. The results of the MANCOVA and ANCOVAs are presented in Table 5. The means and standard deviations on the dependent variables by group are presented in Table 6.
Table 5

MANCOVA and ANCOVAs on Post and Follow-Up ORG Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program) while Controlling for Pre-ORG Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANCOVA F(4,38)</th>
<th>ANCOVA F(2, 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>2.97*</td>
<td>2.09</td>
</tr>
<tr>
<td></td>
<td>4.44*</td>
<td>4.44*</td>
</tr>
</tbody>
</table>

Note. For post-PSQ-Org scores, *p < .025, **p < .01. For follow-up PSQ-Org scores, *p < .05, **p < .01. F ratios are Wilks’ lambda approximation of F. MANCOVA: F(4, 38) = 2.97, p = .031, partial η² = .24.

Table 6

Means and Standard Deviations for Organizational Stress Scores for Post and Follow-up by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)

<table>
<thead>
<tr>
<th></th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ-Org scores</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Post</td>
<td>62.95</td>
<td>5.45</td>
<td>53.41</td>
</tr>
<tr>
<td>Follow-up</td>
<td>63.86</td>
<td>4.77</td>
<td>55.03</td>
</tr>
</tbody>
</table>

Hypothesis 2

Police officers who participated in the SIT plus booster program would report significantly lower levels of operational stress than police officers who participated in the SIT program and those police officers who participated in the SIT program would report significantly lower levels of operational stress than police officers who participated in the delayed training.
That is, do police officers report significantly different levels of operational stress by group (delayed training vs. SIT program vs. SIT plus booster program)?

H₀₂: There are no significant mean differences on operational stress by group.

Ha₂: There are significant mean differences on operational stress by group.

To assess Hypothesis 2, a MANCOVA was proposed to assess if there are significantly mean differences on post and follow-up PSQ-Op scores by group while controlling for pre-PSQ-Op scores; if the model was significant, the individual ANCOVAs were interpreted. Prior to conducting the analysis, the assumptions of normality, multivariate outliers, homogeneity of regression slopes, absence of multicollinearity, equality of covariance, and equality of variance were assessed. Normality for the three scores was assessed with three KS tests; the results were not significant, thus meeting the assumption of normality. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA for Hypothesis 2 with four total variables (group, pre, post, and follow-up PSQ-Op scores), the critical value was determined to be \( \chi^2 (4) = 18.47 \) at \( p = .001 \) (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-PSQ-Op scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level (\( r = .85, p < .001 \)), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, verifying the
assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the results were not significant, thus meeting the assumption.

The results of the MANCOVA on post and follow-up PSQ-Op scores by group (control vs. SIT vs. SIT plus booster) while controlling for pre-PSQ-Op scores were not statistically significant, $F(4, 38) = 1.63, p = .186$, partial $\eta^2 = .15$, suggesting that post and follow-up PSQ-Op scores are not significantly different by group. The null hypothesis - there are no significant mean differences on operational stress by group – cannot be rejected. The results of the MANCOVA and ANCOVAs are presented in Table 7. The means and standard deviations on the dependent variables by group are presented in Table 8.

Table 7

MANCOVA and ANCOVAs on Post and Follow-Up PSQ-Op Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program) while Controlling for Pre-PSQ-Op Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANCOVA $F(4, 38)$</th>
<th>ANCOVA $F(2, 20)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1.63</td>
<td>0.82</td>
</tr>
</tbody>
</table>

Note. *$p < .05$, **$p < .01$. $F$ ratios are Wilks’ lambda approximation of $F$. MANCOVA: $F(4, 38) = 1.63, p = .186$, partial $\eta^2 = .15$. 
Table 8

Means and Standard Deviations for Operational Stress Scores for Post and Follow-up by Group
(Delayed Training vs. SIT Program vs. SIT Plus Booster Program)

<table>
<thead>
<tr>
<th></th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ-Op scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>57.54</td>
<td>50.57</td>
<td>57.39</td>
</tr>
<tr>
<td></td>
<td>4.35</td>
<td>4.27</td>
<td>3.92</td>
</tr>
<tr>
<td>Follow-up</td>
<td>55.55</td>
<td>44.97</td>
<td>44.86</td>
</tr>
<tr>
<td></td>
<td>5.39</td>
<td>5.29</td>
<td>4.85</td>
</tr>
</tbody>
</table>

Hypothesis 3

Police officers who participated in the SIT plus booster program would report significantly lower levels of perceived life stress than police officers who participated in the SIT program and that police officers who participated in the SIT program would report significantly lower levels of perceived life stress than police officers who participated in the delayed training. That is, do police officers report significantly different levels of perceived life stress by group (delayed training vs. SIT program vs. SIT plus booster program)?

H$_{03}$: There are no significant differences on perceived life stress scores by group.

H$_{a3}$: There are significant differences on perceived life stress scores by group.

To assess Hypothesis 3, a MANCOVA was proposed to assess if there are significantly mean differences on post and follow-up PSS-10 scores by group while controlling for pre-PSS-10 scores; if the model was significant, the individual ANCOVAs were interpreted. Prior to conducting the analysis, the assumptions of normality, multivariate outliers, homogeneity of regression slopes, absence of multicollinearity, equality of covariance, and equality of variance
were assessed. Normality for the three scores was assessed with three KS tests; the results were not significant, thus meeting the assumption of normality. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA for Hypothesis 3 with four total variables (group, pre, post, and follow-up PSS-10 scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-PSS-10 scores) and the independent variable (group); the results of the interaction were significant, violating the assumption. The covariate, pre-PSS-10 scores, was removed from the analysis. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level ($r = .48, p = .017$), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, verifying the assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the test was only significant for post-PSS-10 scores. Due to this violation, a more stringent alpha level ($\alpha = .025$) was set for determining significance in the individual analysis of variance (ANOVA) on post-PSS-10 scores (Tabachnick & Fidell, 2012).

The results of the multiple analysis of variance (MANOVA) on post and follow-up PSS-10 scores by group (control vs. SIT vs. SIT plus booster) were statistically significant, $F(4, 40) = 3.03, p = .029$, partial $\eta^2 = .23$, indicating that post and follow-up scores were significantly different by group. The MANOVA’s effect size (partial $\eta^2$) of .23 indicates a medium difference
among the three group levels (Morgan, Leech, Gloekner & Barrett, 2007). Of the two dependent
variables, neither were found to be significantly different by group.

The ANOVA on post-PSS-10 scores by group (at $\alpha = .025$) was not statistically
significant, $F(2, 21) = 1.45, p = .258$, partial $\eta^2 = .12$, suggesting that post-PSS-10 scores were
not significantly different by group.

The ANOVA on follow-up PSS-10 scores by group was not statistically significant, $F(2, 21) = 1.10, p = .352$, partial $\eta^2 = .10$, suggesting that follow-up PSS-10 scores were not
significantly different by group. The null hypothesis - there are no significant differences on
perceived life stress scores by group – can be rejected. The results of the MANOVA and
ANOVAs are presented in Table 9. The means and standard deviations on the dependent
variables by group are presented in Table 10.

Table 9

<table>
<thead>
<tr>
<th>MANOVA $F(4, 40)$</th>
<th>ANOVA $F(2, 21)$</th>
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<tbody>
<tr>
<td>Variable</td>
<td>Post-PSS-10</td>
</tr>
<tr>
<td>Group</td>
<td>3.03*</td>
</tr>
</tbody>
</table>

Note. For post-PSS-10 scores, $* p < .025$, $** p < .01$. For follow-up PSS-10 scores, $* p < .05$, $** p < .01$. $F$ ratios are Wilks’ lambda approximation of $F$. MANOVA: $F(4, 40) = 3.03, p = .029$, partial $\eta^2 = .23$. 

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Table 10

Means and Standard Deviations for Perceived Lift Stress Scores for Post and Follow-up by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)

<table>
<thead>
<tr>
<th></th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>PSS-10 scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>10.00</td>
<td>1.66</td>
<td>13.63</td>
</tr>
<tr>
<td>Follow-up</td>
<td>15.00</td>
<td>1.99</td>
<td>11.75</td>
</tr>
</tbody>
</table>

Hypothesis 4

Police officers who participated in the SIT plus booster program would report significantly lower levels of mood disturbance than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly lower levels of mood disturbance than police officers who participated in the delayed training group. That is, do police officers report significantly different levels of total mood disturbance by group (delayed training vs. SIT program vs. SIT plus booster program)?

H_0^4: There are no significant mean differences on total mood disturbance scores by group.

H_a^4: There are significant mean differences on total mood disturbance scores by group.

To assess Hypothesis 4, a MANCOVA was proposed to assess if there are significantly mean differences on post and follow-up POMS-SF scores by group while controlling for pre-POMS-SF scores; if the model was significant, the individual ANCOVAs were interpreted. Prior to conducting the analysis, the assumptions of normality, multivariate outliers, homogeneity of regression slopes, absence of multicollinearity, equality of covariance, and equality of variance were assessed. Normality for the three scores was assessed with three KS tests; the results were
not significant, thus meeting the assumption of normality. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA for Hypothesis 4 with four total variables (group, pre, post, and follow-up POMS-SF scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-POMS-SF scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level ($r = .42, p = .041$), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, verifying the assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the test was only significant for post-POMS-SF scores. Due to this violation, a more stringent alpha level ($\alpha = .025$) was set for determining significance in the individual ANCOVA on post-POMS-SF scores (Tabachnick & Fidell, 2012).

The results of the MANCOVA on post and follow-up POMS-SF scores by group (control vs. SIT vs. SIT plus booster) while controlling for pre-POMS-SF scores were not statistically significant, $F(4, 38) = 0.98, p = .428$, partial $\eta^2 = .09$, suggesting that post and follow-up POMS-SF scores are not significantly different by group. The null hypothesis - there are no significant mean differences on total mood disturbance scores by group – cannot be rejected. The results of the MANCOVA and ANCOVAs are presented in Table 11. The means and standard deviations on the dependent variables by group are presented in Table 12.
Table 11

**MANCOVA and ANCOVAs on Post and Follow-Up POMS-SF Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program) while Controlling for Pre-TMD Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANCOVA $F(4, 38)$</th>
<th>ANCOVA $F(2, 20)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>0.98</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td>0.29</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* For post-POMS-SF scores, $^*p < .025$, $^{**}p < .01$. For follow-up POMS-SF scores, $^*p < .05$, $^{**}p < .01$. $F$ ratios are Wilks’ lambda approximation of $F$. MANCOVA: $F(4, 38) = 0.98$, $p = .428$, partial $\eta^2 = .09$.

Table 12

**Means and Standard Deviations for Total Mood Disturbance Scores for Post and Follow-up by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)**

<table>
<thead>
<tr>
<th></th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POMS-SF scores</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>49.36</td>
<td>58.87</td>
<td>57.28</td>
</tr>
<tr>
<td></td>
<td>8.41</td>
<td>7.79</td>
<td>7.18</td>
</tr>
<tr>
<td>Follow-up</td>
<td>47.54</td>
<td>52.53</td>
<td>45.30</td>
</tr>
<tr>
<td></td>
<td>7.92</td>
<td>7.33</td>
<td>6.78</td>
</tr>
</tbody>
</table>

**Ancillary Analyses**

For pre, post, and follow-up, mood disturbance was split-up into six sub-scales (depression, vigor, confusion, tension, anger, and fatigue), where each sub-scale was created from the summation of Likert-scaled POMS-SF survey items and responses ranged from $0 = not at all$ to $4 = extremely$. Depression was created by summation of Items 4, 8, 12, 14, 20, 23, 28, and 33. Vigor was created by the summation of Items 5, 9, 13, 24, 32, and 35. Confusion was
created by the summation of Items 6, 17, 30, 34, and 36. Tension was created by the summation of Items 1, 10, 15, 16, 22, and 27. Anger was created by the summation of Items 2, 7, 11, 19, 21, 25, and 31. Fatigue was created from the summation of Items 3, 18, 26, 29, and 37. The largest sub-scale was follow-up vigor, with $M = 12.17$ and $SD = 5.16$, followed by post-vigor, with $M = 11.83$ and $SD = 5.53$. Means and standard deviations for the six mood sub-scales for pre, post, and follow-up are presented in Table 13.

Table 13

*Means and Standard Deviations for Depression, Vigor, Confusion, Tension, Anger, and Fatigue Scores for Pre, Post, and Follow-up*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre</th>
<th>Post</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Depression</td>
<td>3.54</td>
<td>5.82</td>
<td>3.29</td>
</tr>
<tr>
<td>Vigor</td>
<td>11.00</td>
<td>4.45</td>
<td>11.83</td>
</tr>
<tr>
<td>Confusion</td>
<td>4.13</td>
<td>4.23</td>
<td>3.71</td>
</tr>
<tr>
<td>Tension</td>
<td>6.50</td>
<td>4.78</td>
<td>5.75</td>
</tr>
<tr>
<td>Anger</td>
<td>8.67</td>
<td>5.40</td>
<td>8.00</td>
</tr>
<tr>
<td>Fatigue</td>
<td>9.04</td>
<td>4.92</td>
<td>8.04</td>
</tr>
</tbody>
</table>

Cronbach alpha reliability coefficients were conducted on the mood disturbance sub-scales. According to the rules of thumbs suggested by George and Mallery (2010), alpha coefficients range from unacceptable to excellent where $> .9$ – excellent, $> .8$ – good, $> .7$ – acceptable, $> .6$ – questionable, $> .5$ – poor, and $\leq .5$ – unacceptable. All sub-scales ranged from acceptable ($\alpha > .70$) to excellent ($\alpha > .90$), where the largest alpha coefficients were pre-
depression and post-vigor at $\alpha = .95$. The smallest alpha coefficient was follow-up confusion at $\alpha = .74$. The alpha coefficients for the mood sub-scales are presented in Table 14.

Table 14

*Cronbach Alpha Reliabilities for Depression, Vigor, Confusion, Tension, Anger, and Fatigue Scores for Pre, Post, and Follow-up*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre</th>
<th>Post</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Vigor</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Confusion</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Tension</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Anger</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Fatigue</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Six MANCOVAs were proposed on the sub-scales to assess for mean differences on post and follow-up scores by group (delayed training vs. SIT program vs. SIT plus booster program) while controlling for pre-scores; one MANCOVA per sub-scale. The first MANCOVA proposed was on post and follow-up depression scores by group while controlling for pre-depression scores. The assumptions of the MANCOVA were assessed. Normality for the three scores was assessed with three KS tests; the assumption was not met. Results must be interpreted with caution. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up depression scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no
multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-depression scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level (r = .23, p = .277), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was significant, violating the assumption of equality of covariance. Due to this violation, Pillai’s Trace statistic was interpreted. The assumption of equality of variance was assessed with two Levene’s tests; the test was only significant for post-depression scores. Due to this violation, a more stringent alpha level (α = .025) was set for determining significance in the individual ANCOVA on post-depression scores (Tabachnick & Fidell, 2012).

The results of the first MANCOVA, on post and follow-up depression scores by group while controlling for pre-depression scores, were not statistically significant, $F(4, 40) = 1.31, p = .282$, partial $\eta^2 = .12$, suggesting that post and follow-up depression scores are not significantly different by group. The results of the MANCOVA and ANCOVAs are presented in Table 15. The means and standard deviations on the dependent variables by group are presented in Table 16.
Table 15

**MANCOVA and ANCOVAs on Post and Follow-Up Depression Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program) while Controlling for Pre-Depression Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANCOVA $F(4, 40)$</th>
<th>ANCOVA $F(2, 20)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1.31</td>
<td>0.84</td>
</tr>
<tr>
<td>Post-depression</td>
<td>1.37</td>
<td></td>
</tr>
<tr>
<td>Follow-up depression</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** For post-depression scores, * $p < .025$, ** $p < .01$. For follow-up depression scores, * $p < .05$, ** $p < .01$. $F$ ratios are Pillai’s Trace approximation of $F$. MANCOVA: $F(4, 40) = 1.31$, $p = .282$, partial $\eta^2 = .12$.

Table 16

**Means and Standard Deviations for Depression Scores for Post and Follow-up by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)**

<table>
<thead>
<tr>
<th>Depression scores</th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post</td>
<td>$M$ = 3.35, $SD$ = 1.09</td>
<td>$M$ = 2.25, $SD$ = 1.14</td>
<td>$M$ = 4.27, $SD$ = 1.02</td>
</tr>
<tr>
<td>Follow-up</td>
<td>$M$ = 4.74, $SD$ = 1.27</td>
<td>$M$ = 2.52, $SD$ = 1.33</td>
<td>$M$ = 2.00, $SD$ = 1.19</td>
</tr>
</tbody>
</table>

The second MANCOVA proposed was on post and follow-up vigor scores while controlling for pre-vigor scores. The assumptions of the MANCOVA were assessed. Normality for the three scores was assessed with three KS tests; the assumption was met. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up vigor scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found.
Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-vigor scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level ($r = .54, p = .006$), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, meeting the assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the assumption was met.

The results of the second MANCOVA, on post and follow-up vigor scores by group while controlling for pre-vigor scores, were statistically significant, $F(4, 38) = 4.38, p = .005$, partial $\eta^2 = .32$, suggesting that post and follow-up vigor scores are significantly different by group while controlling for pre-vigor scores. The MANCOVA’s effect size (partial $\eta^2$) of .32 indicates a medium difference among the three group levels (Morgan, Leech, Gloekner & Barrett, 2007). Both post-vigor scores and follow-up scores were significantly different by group.

The ANCOVA on post-vigor scores by group (delayed training vs. SIT program vs. SIT plus booster program) while controlling for pre-vigor scores was statistically significant, $F(2, 20) = 4.98, p = .018$, partial $\eta^2 = .33$, indicating that post-vigor scores were significantly different by group. The ANCOVA’s effect size (partial $\eta^2$) of .33 indicates a medium difference among the group levels (Morgan et al., 2007). Pair-wise comparisons were conducted to determine where the significant differences lie: the SIT plus booster program group ($M = 13.75$) had significantly
higher post-vigor scores than the delayed training group ($M = 8.70$). No other significant differences were found.

The ANCOVA on follow-up scores by group (delayed training vs. SIT program vs. SIT plus booster program) while controlling for pre-vigor scores was statistically significant, $F(2, 20) = 6.39$, $p = .007$, partial $\eta^2 = .39$, indicating that follow-up vigor scores were significantly different by group. The ANCOVA’s effect size (partial $\eta^2$) of .39 indicates a large difference among the group levels (Morgan et al., 2007). Pair-wise comparisons were conducted to determine where the significant differences lie: the SIT plus booster program group ($M = 13.75$) had significantly higher follow-up scores than the delayed training group ($M = 8.00$); and the SIT group ($M = 14.75$) had significantly higher follow-up scores than the delayed training group ($M = 8.00$). No other significant differences were found. The results of the MANCOVA and ANCOVAs are presented in Table 17. The means and standard deviations on the dependent variables by group are presented in Table 18.

Table 17

<table>
<thead>
<tr>
<th>MANCOVA $F(4, 38)$</th>
<th>ANCOVA $F(2, 20)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Post-vigor</td>
</tr>
<tr>
<td>Group</td>
<td>4.38**</td>
</tr>
</tbody>
</table>

*Note. *$p < .05$, **$p < .01$. $F$ ratios are Wilks’ lambda approximation of $F$. MANCOVA: $F(4, 38) = 4.38$, $p = .005$, partial $\eta^2 = .32$.}
The third MANCOVA proposed was on post and follow-up confusion scores while controlling for pre-confusion scores. The assumptions of the MANCOVA were assessed. Normality for the three scores was assessed with three KS tests; the assumption was met. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up confusion scores), the critical value was determined to be \(\chi^2(4) = 18.47\) at \(p = .001\) (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-confusion scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level (\(r = .66, p < .001\)), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was significant, violating the assumption of
equality of covariance. Due to this violation, Pillai’s Trace was interpreted. The assumption of equality of variance was assessed with two Levene’s tests; the assumption was met.

The results of the third MANCOVA, on post and follow-up confusion scores by group while controlling for pre-confusion scores, were not statistically significant, $F(4, 40) = 1.97, p = .118$, partial $\eta^2 = .17$, suggesting that post and follow-up confusion scores are not significantly different by group. The results of the MANCOVA and ANCOVAs are presented in Table 19. The means and standard deviations on the dependent variables by group are presented in Table 20.

Table 19

**MANCOVA and ANCOVAs on Post and Follow-Up Confusion Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program ) while Controlling for Pre-Confusion Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANCOVA $F(4, 40)$</th>
<th>ANCOVA $F(2, 20)$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post-confusion</td>
<td>Follow-up confusion</td>
</tr>
<tr>
<td>Group</td>
<td>1.97</td>
<td>2.21</td>
</tr>
</tbody>
</table>

*Note.* *p < .05, **p < .01. F ratios are Pillai’s Trace approximation of $F$. MANCOVA: $F(4, 40) = 1.97, p = .118$, partial $\eta^2 = .17.$
Table 20

Means and Standard Deviations for Confusion Scores for Post and Follow-up by Group

(Delayed Training vs. SIT Program vs. SIT Plus Booster Program)

<table>
<thead>
<tr>
<th></th>
<th>Delayed Training</th>
<th></th>
<th>SIT</th>
<th></th>
<th>SIT Plus Booster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Confusion scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.04</td>
<td>0.68</td>
<td>2.59</td>
<td>0.68</td>
<td>4.50</td>
<td>0.61</td>
</tr>
<tr>
<td>Follow-up</td>
<td>5.17</td>
<td>0.97</td>
<td>2.21</td>
<td>0.97</td>
<td>3.38</td>
<td>0.86</td>
</tr>
</tbody>
</table>

The fourth MANCOVA proposed was on post and follow-up tension scores while controlling for pre-tension scores. The assumptions of the MANCOVA were assessed. Normality for the three scores was assessed with three KS tests; the assumption was met. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up tension scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-tension scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level ($r = .52, p = .009$), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was significant, violating the assumption of equality of covariance. Due to this violation, Pillai’s Trace was interpreted. The assumption of
equality of variance was assessed with two Levene’s tests; the test was significant for post-tension scores only. Due to this violation, a more stringent alpha level ($\alpha = .025$) was set for determining significance in the individual ANCOVA on post-tension scores (Tabachnick & Fidell, 2012).

The results of the fourth MANCOVA, on post and follow-up tension scores by group while controlling for pre-tension scores, were not statistically significant, $F(4, 40) = 0.75, p = .564$, partial $\eta^2 = .07$, suggesting that post and follow-up tension scores are not significantly different by group. The results of the MANCOVA and ANCOVAs are presented in Table 21. The means and standard deviations on the dependent variables by group are presented in Table 22.

Table 21

<table>
<thead>
<tr>
<th>MANCOVA and ANCOVAs on Post and Follow-Up Tension Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program) while Controlling for Pre-Tension Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANCOVA $F(4, 40)$</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Group</td>
</tr>
</tbody>
</table>

Note. For post-tension scores, * $p < .025$, ** $p < .01$. For follow-up tension scores, *$p < .05$, **$p < .01$. $F$ ratios are Pillai’s Trace approximation of $F$. MANCOVA: $F(4, 40) = 0.75, p = .564$, partial $\eta^2 = .07$.  

90
Table 22

*Means and Standard Deviations for Tension Scores for Post and Follow-up by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)*

<table>
<thead>
<tr>
<th></th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tension scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>5.81</td>
<td>5.49</td>
<td>5.95</td>
</tr>
<tr>
<td></td>
<td>1.54</td>
<td>1.33</td>
<td>1.30</td>
</tr>
<tr>
<td>Follow-up</td>
<td>7.09</td>
<td>3.58</td>
<td>4.09</td>
</tr>
<tr>
<td></td>
<td>1.49</td>
<td>1.29</td>
<td>1.25</td>
</tr>
</tbody>
</table>

The fifth MANCOVA proposed was on post and follow-up anger scores while controlling for pre-anger scores. The assumptions of the MANCOVA were assessed. Normality for the three scores was assessed with three KS tests; the assumption was met. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up anger scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-anger scores) and the independent variable (group); the results of the interaction were significant, violating the assumption. The covariate, pre-anger scores, was removed from the analysis. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level ($r = .18, p = .395$), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was significant, violating the assumption of equality of covariance. Due to this violation, Pillai’s...
Trace was interpreted. The assumption of equality of variance was assessed with two Levene’s tests; the assumption was met.

The results of the MANOVA on post and follow-up anger scores by group were not statistically significant, \(F(4, 42) = 1.75, p = .158\), partial \(\eta^2 = .14\), suggesting that post and follow-up anger scores are not significantly different by group. The results of the MANOVA and ANOVAs are presented in Table 23. The means and standard deviations on the dependent variables by group are presented in Table 24.

Table 23

**MANOVA and ANOVAs on Post and Follow-Up Anger Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANOVA (F(4, 42))</th>
<th>ANOVA (F(2, 21))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1.75</td>
<td>1.48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.73</td>
</tr>
</tbody>
</table>

*Note. *\(p < .05\), **\(p < .01\). F ratios are Pillai’s Trace approximation of \(F\). MANOVA: \(F(4, 42) = 1.75, p = .158\), partial \(\eta^2 = .14\).*

Table 24

**Means and Standard Deviations for Anger Scores for Post and Follow-up by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)**

<table>
<thead>
<tr>
<th>Anger scores</th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post</td>
<td>(M) 5.81, (SD) 1.54</td>
<td>(M) 5.49, (SD) 1.33</td>
<td>(M) 5.95, (SD) 1.30</td>
</tr>
<tr>
<td>Follow-up</td>
<td>(M) 7.09, (SD) 1.49</td>
<td>(M) 3.58, (SD) 1.29</td>
<td>(M) 4.09, (SD) 1.25</td>
</tr>
</tbody>
</table>
The sixth MANCOVA proposed was on post and follow-up fatigue scores while controlling for pre-fatigue scores. The assumptions of the MANCOVA were assessed. Normality for the three scores was assessed with three KS tests; the assumption was met. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up fatigue scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-fatigue scores) and the independent variable (group); the results of the interaction were not significant, meeting the assumption. Absence of multicollinearity between the dependent variables was assessed with the examination of a correlation matrix. Variables are considered too related if the correlation is greater than .90 (Tabachnick & Fidell, 2012); none of the variables were correlated at this level ($r = .41, p = .046$), indicating the assumption was met. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was significant, violating the assumption of equality of covariance. Due to this violation, Pillai’s Trace was interpreted. The assumption of equality of variance was assessed with two Levene’s tests; the test was only significant for follow-up fatigue scores. Due to this violation, a more stringent alpha level ($\alpha = .025$) was set for determining significance in the individual ANCOVA on follow-up fatigue scores (Tabachnick & Fidell, 2012).

The results of the sixth MANCOVA, on post and follow-up fatigue scores by group while controlling for pre-fatigue scores, were not statistically significant, $F(4, 40) = 1.77, p = .153$, partial $\eta^2 = .15$, suggesting that post and follow-up fatigue scores are not significantly different.
by group. The results of the MANCOVA and ANCOVAs are presented in Table 25. The means and standard deviations on the dependent variables by group are presented in Table 26.

Table 25

**MANCOVA and ANCOVAs on Post and Follow-Up Fatigue Scores by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program) while Controlling for Pre-Fatigue Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANCOVA $F(4, 40)$</th>
<th>Post-fatigue</th>
<th>Follow-up fatigue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1.77</td>
<td>3.67</td>
<td>1.49</td>
</tr>
</tbody>
</table>

*Note. For follow-up fatigue scores, * $p < .025$, ** $p < .01$. For post fatigue scores, * $p < .05$, ** $p < .01$. $F$ ratios are Pillai’s Trace approximation of $F$. MANCOVA: $F(4, 40) = 1.77, p = .153$, partial $\eta^2 = .15$*

Table 26

**Means and Standard Deviations for Fatigue Scores for Post and Follow-up by Group (Delayed Training vs. SIT Program vs. SIT Plus Booster Program)**

<table>
<thead>
<tr>
<th>Fatigue scores</th>
<th>Delayed Training</th>
<th>SIT</th>
<th>SIT Plus Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post</td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td></td>
<td>8.88</td>
<td>1.61</td>
<td>9.97</td>
</tr>
<tr>
<td>Follow-up</td>
<td>10.14</td>
<td>2.03</td>
<td>8.36</td>
</tr>
</tbody>
</table>

In addition to the six MANCOVAs, PSQ-Org, PSQ-Op, PSS-20, and POMS-SF scores for pre, post, and follow-up were assessed with the following demographic variables: age, number of years in any department, gender, ethnicity, and special assignment. Age and number of years in any department were treated as continuous variables; thus Pearson correlations were
conducted. Gender, ethnicity, and special assignment were treated as grouping variables; thus MANCOVAs were conducted.

Twelve Pearson correlations were conducted to determine if a significant relationship exists between age and the pre, post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF. No correlations were statistically significant, suggesting that there is no significant association between age and pre, post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF. The results of the Pearson correlations between age and the pre, post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF are presented in Table 27.

Table 27

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ-Org</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.16</td>
</tr>
<tr>
<td>Post</td>
<td>-.22</td>
</tr>
<tr>
<td>Follow-up</td>
<td>-.11</td>
</tr>
<tr>
<td>PSQ-Op</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.15</td>
</tr>
<tr>
<td>Post</td>
<td>-.10</td>
</tr>
<tr>
<td>Follow-up</td>
<td>.05</td>
</tr>
<tr>
<td>PSS-10</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.08</td>
</tr>
<tr>
<td>Post</td>
<td>-.09</td>
</tr>
<tr>
<td>Follow-up</td>
<td>.28</td>
</tr>
<tr>
<td>POMS-SF</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.13</td>
</tr>
<tr>
<td>Post</td>
<td>-.10</td>
</tr>
<tr>
<td>Follow-up</td>
<td>.16</td>
</tr>
</tbody>
</table>

Note. *p < .05, **p < .01.

Twelve Pearson correlations were conducted to determine if a significant relationship exists between number of years in any department and the pre, post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF. No correlations were statistically significant,
suggesting that there is no significant association between number of years in any department and pre, post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF. The results of the Pearson correlations between number of years in any department and the pre, post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF are presented in Table 28.

Table 28

*Pearson Correlations between Number of Years in Any Department and Organizational Stress, Operational Stress, Perceived Life Stress, and Total Mood Disturbance Scores for Pre, Post, and Follow-up*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of years in any department</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQ-Org</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.27</td>
</tr>
<tr>
<td>Post</td>
<td>-.29</td>
</tr>
<tr>
<td>Follow-up</td>
<td>-.03</td>
</tr>
<tr>
<td>PSQ-Op</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.26</td>
</tr>
<tr>
<td>Post</td>
<td>-.19</td>
</tr>
<tr>
<td>Follow-up</td>
<td>.08</td>
</tr>
<tr>
<td>PSS-10</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.14</td>
</tr>
<tr>
<td>Post</td>
<td>-.06</td>
</tr>
<tr>
<td>Follow-up</td>
<td>.34</td>
</tr>
<tr>
<td>POMS-SF</td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>-.34</td>
</tr>
<tr>
<td>Post</td>
<td>-.25</td>
</tr>
<tr>
<td>Follow-up</td>
<td>.18</td>
</tr>
</tbody>
</table>

*Note. *p < .05, **p < .01.*

Four MANCOVAs were proposed to determine if significant differences exist on post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF while controlling for pre-scores by gender (male vs. female). The assumptions of normality and absence of multicollinearity were assessed in Hypotheses 1 – 4; they were not re-assessed.

The first MANCOVA by gender was conducted on post and follow-up PSQ-Org scores while controlling for pre-PSQ-Org scores. Prior to conducting the analysis, the assumptions of
multivariate outliers, homogeneity of regression slopes, equality of covariance, and equality of variance were assessed. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up PSQ-Org scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-PSQ-Org scores) and the independent variable (gender); the results of the interaction were not significant, meeting the assumption. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, verifying the assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the assumption was met.

The results of first MANCOVA by gender, on post and follow-up PSQ-Org scores while controlling for pre-PSQ-Org scores, were not significant, $F(2, 20) = 0.63, p = .544$, partial $\eta^2 = .06$, suggesting that post and follow-up PSQ-Org are not significantly different by gender. The results of the MANCOVA and ANCOVAs are presented in Table 29. The means and standard deviations on the dependent variables by group are presented in Table 30.

Table 29

<table>
<thead>
<tr>
<th>MANCOVA $F(2, 20)$</th>
<th>ANCOVA $F(1, 21)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Post-PSQ-Org</td>
</tr>
<tr>
<td></td>
<td>0.63</td>
</tr>
</tbody>
</table>

Note. *$p < .05$, **$p < .01$. $F$ ratios are Wilks’ lambda approximation of $F$. MANCOVA: $F(2, 20) = 0.63, p = .544$, partial $\eta^2 = .06$. 97
Table 30
*Means and Standard Deviations for PSQ-Org Scores for Post and Follow-up by Gender (Male vs. Female)*

<table>
<thead>
<tr>
<th>PSQ-Org scores</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>M</em></td>
<td><em>SD</em></td>
</tr>
<tr>
<td>Post</td>
<td>60.98</td>
<td>3.64</td>
</tr>
</tbody>
</table>

The second MANCOVA by gender was conducted on post and follow-up PSQ-Op scores while controlling for pre-PSQ-Op scores. Prior to conducting the analysis, the assumptions of multivariate outliers, homogeneity of regression slopes, equality of covariance, and equality of variance were assessed. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up PSQ-Ops scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-PSQ-Op scores) and the independent variable (gender); the results of the interaction were not significant, meeting the assumption. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, verifying the assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the assumption was met.

The results of the second MANCOVA by gender, on post and follow-up PSQ-Op scores while controlling for pre-PSQ-Op scores, were not significant, $F(2, 20) = 0.24$, $p = .786$, partial $\eta^2 = .02$, suggesting that post and follow-up PSQ-Op are not significantly different by gender.
The results of the MANCOVA and ANCOVAs are presented in Table 31. The means and standard deviations on the dependent variables by group are presented in Table 32.

Table 31

**MANCOVA and ANCOVAs on Post and Follow-Up PSQ-Op Scores by Gender (Male vs. Female) while Controlling for Pre-PSQ-Op Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANCOVA $F(2, 20)$</th>
<th>Post-PSQ-Op</th>
<th>Follow-up PSQ-Op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.24</td>
<td>0.20</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*Note.* *p < .05, **p < .01. *F* ratios are Wilks’ lambda approximation of *F*. MANCOVA: $F(2, 20) = 0.24, p = .786, partial \( \eta^2 = .02 \).

Table 32

**Means and Standard Deviations for PSQ-Op Scores for Post and Follow-up by Gender (Male vs. Female)**

<table>
<thead>
<tr>
<th>PSQ-Op scores</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post</td>
<td>55.69</td>
<td>53.17</td>
</tr>
<tr>
<td>Follow-up</td>
<td>48.37</td>
<td>48.80</td>
</tr>
</tbody>
</table>

The third MANCOVA by gender was conducted on post and follow-up PSS-10 scores while controlling for pre-PSS-10 scores. Prior to conducting the analysis, the assumptions of multivariate outliers, homogeneity of regression slopes, equality of covariance, and equality of variance were assessed. Multivariate outliers were examined by using Mahalanobis distances. For the MANCOVA with 4 total variables (group, pre, post, and follow-up PSS-10 scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no
multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-PSS-10 scores) and the independent variable (gender); the results of the interaction were not significant, meeting the assumption. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was not significant, verifying the assumption of equality of covariance. The assumption of equality of variance was assessed with two Levene’s tests; the assumption was met.

The results of the third MANCOVA by gender, on post and follow-up PSS-10 scores while controlling for pre-PSS-10 scores, were not significant, \( F(2, 20) = 2.16, p = .141 \), partial \( \eta^2 = .18 \), suggesting that post and follow-up PSS-10 are not significantly different by gender. The results of the MANCOVA and ANCOVAs are presented in Table 33. The means and standard deviations on the dependent variables by group are presented in Table 34.

Table 33

<table>
<thead>
<tr>
<th>MANCOVA and ANCOVAs on Post and Follow-Up PSS-10 Scores by Gender (Male vs. Female) while Controlling for Pre-PSS-10 Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Gender</td>
</tr>
</tbody>
</table>

*Note. *\( p < .05 \), **\( p < .01 \). F ratios are Wilks’ lambda approximation of \( F \). MANCOVA: \( F(2, 20) = 2.16, p = .141 \), partial \( \eta^2 = .18 \).
Table 34

Means and Standard Deviations for PSS-10 Scores for Post and Follow-up by Gender (Male vs. Female)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PSS-10 scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>12.23</td>
<td>0.82</td>
<td>12.53</td>
<td>1.62</td>
</tr>
<tr>
<td>Follow-up</td>
<td>11.53</td>
<td>1.16</td>
<td>16.80</td>
<td>2.29</td>
</tr>
</tbody>
</table>

The third MANCOVA by gender was conducted on post and follow-up POMS-SF scores while controlling for pre-POMS-SF scores. Prior to conducting the analysis, the assumptions of multivariate outliers, homogeneity of regression slopes, equality of covariance, and equality of variance were assessed. Multivariate outliers were examined by using Mahalanobis distances.

For the MANCOVA with 4 total variables (group, pre, post, and follow-up POMS-SF scores), the critical value was determined to be $\chi^2 (4) = 18.47$ at $p = .001$ (Tabachnick & Fidell, 2012); no multivariate outliers were found. Homogeneity of regression slopes was assessed by checking if there is a statistically significant interaction between the covariate (pre-POMS-SF scores) and the independent variable (gender); the results of the interaction were significant, violating the assumption. The covariate, pre-POMS-SF scores, was removed from the analysis. The assumption of equality of covariance was assessed with the Box’s M test and the result of the test was significant, violating the assumption of equality of covariance. Due to this violation, Pillai’s Trace was interpreted. The assumption of equality of variance was assessed with two Levene’s tests; the assumption was met.
The results of the MANOVA by gender, on post and follow-up POMS-SF scores while controlling for pre-POMS-SF scores, was not statistically significant, $F(2, 21) = 0.25, p = .784$, partial $\eta^2 = .02$, suggesting that post and follow-up POMS-SF scores are not significantly different by gender. The results of the MANOVA and ANOVAs are presented in Table 35. The means and standard deviations on the dependent variables by group are presented in Table 36.

Table 35

**MANOVA and ANOVAs on Post and Follow-Up POMS-SF Scores by Gender (Male vs. Female)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MANOVA $F(2, 21)$</th>
<th>ANOVA $F(1, 22)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.25</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>0.30</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *p* < .05, **p** < .01. $F$ ratios are Pillai’s Trace approximation of $F$. MANOVA: $F(2, 21) = 0.25, p = .784$, partial $\eta^2 = .02$.

Table 36

**Means and Standard Deviations for POMS-SF Scores for Post and Follow-up by Gender (Male vs. Female)**

<table>
<thead>
<tr>
<th>POMS-SF scores</th>
<th>Male</th>
<th>SD</th>
<th>Female</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post</td>
<td>42.05</td>
<td>4.70</td>
<td>35.40</td>
<td>9.15</td>
</tr>
<tr>
<td>Follow-up</td>
<td>39.47</td>
<td>3.05</td>
<td>35.80</td>
<td>5.95</td>
</tr>
</tbody>
</table>

Four MANCOVAs were proposed to determine if significant differences exist on post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF while controlling for pre-scores by race (Caucasian, African-American, Hispanic, and Pacific Islander). However, due to
the varying sample sizes among the four racial groups (20 vs. 2 vs. 1 vs. 1), the four MANCOVAs by race were not conducted.

Four MANCOVAs proposed to determine if significant differences exist on post, and follow-up scores for PSQ-Org, PSQ-Op, PSS-10, and POMS-SF while controlling for pre-scores by special assignment (SWAT, training officer, neighborhood resource officer, vice, corrections/jail, and none). However, due to the varying sample sizes among the six assignment groups (3 vs. 5 vs. 1 vs. 1 vs. 1 vs. 13), the four MANCOVAs by special assignment were not conducted.

SIT Evaluation Form

Subsequent to completing the four, 90-minutes sessions the comprised the SIT program, members of both the SIT program group and SIT plus booster program (n = 16) group were asked to provide feedback to the student facilitator through use of the SIT evaluation form (see Appendix E). The SIT evaluation form (see Appendix E) is a 15-item, self-report measure designed for the current study to assess the participant’s satisfaction with the SIT training program. Participants responded to the first ten questions on a 6-point Likert-type scale, with answers ranging from 1 (strongly disagree) to 6 (strongly agree). The last five questions were open response questions (see Appendix G for responses to these questions). The bulk of participants (n = 12), responded to the SIT evaluation form (see Appendix E). Means and standard deviations for each of the first ten questions are presented in Table 37.
Table 37

*Means and Standard Deviations for Questions on the SIT Program Evaluation Form*

<table>
<thead>
<tr>
<th>Question</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>The content of the program is relevant to me.</td>
<td>5.08</td>
<td>.669</td>
</tr>
<tr>
<td>I felt comfortable to say what I really thought or felt in each session.</td>
<td>4.92</td>
<td>1.165</td>
</tr>
<tr>
<td>When I return to my normal routine(s), I will continue to think about what has been discussed throughout this program.</td>
<td>4.83</td>
<td>.718</td>
</tr>
<tr>
<td>I am currently applying ideas from this seminar.</td>
<td>4.83</td>
<td>.937</td>
</tr>
<tr>
<td>I believe that I will be able to use ideas from this program in the future.</td>
<td>5.25</td>
<td>.622</td>
</tr>
<tr>
<td>I believe the other group members are interested in improving themselves.</td>
<td>4.67</td>
<td>.778</td>
</tr>
<tr>
<td>I have learned a lot from this program.</td>
<td>5.00</td>
<td>.739</td>
</tr>
<tr>
<td>If there was a follow-up program offered, I would take it.</td>
<td>4.67</td>
<td>1.371</td>
</tr>
<tr>
<td>I would recommend this program to other police officers/departments.</td>
<td>5.25</td>
<td>.754</td>
</tr>
<tr>
<td>Overall, I’m glad I took part in this program.</td>
<td>5.50</td>
<td>.674</td>
</tr>
</tbody>
</table>
CHAPTER 5
DISCUSSION

Overview

Since the 1970s, no other area of inquiry within the field of law enforcement has been investigated as much as stress in policing (Abdollahi, 2002; Blau, 1994; Oliver & Meier, 2009; Reese, 1986; Reiser, 1974). Early inquiry in this field appeared to take a cue from the German philosopher, Friedrich Nietzsche, who opined that “he who fights with monsters might take care lest he thereby become a monster…and if you gaze for long into an abyss, the abyss also gazes into you” (Beyond Good and Evil, 2012, p. 40). That is, policing was thought to be inherently stressful because police officers were viewed as being exposed to daily encounters with malefic forces and the sinister underbelly of society that the general public rarely comes into contact with. Though this clichéd and somewhat romanticized view of police work may be accurate to a limited extent, the vast majority of police officers do not customarily face these types of situations, particularly police officers from suburban/rural police agencies or for those offices assigned to administrative duties.

With this in mind, more recent research suggests that, while police work is not inherently stressful, it does come with a constellation of unique characteristics that act as stressors and make police work a high stress and high strain occupation (Abdollahi, 2002; Alkus & Padesky, 1983; Anderson et al., 1995; Anshel, 2000; Brown & Campbell, 1994; Ellison, 2004; Gershon et al., 2009; Kroes, 1976; Reilly & DiAngelo, 1990; Reiser, 1974; Violanti & Aron, 1993, 1994, 1995; Violanti & Marshall, 1983). These unique characteristics have been identified through a number of methods (Abdollahi, 2002; Eisenberg, 1975; Ellison, 2004; Kroes, 1976; Kroes et al., 1974; Reiser, 1974; Reiser, 1976; Swanson et al., 2005) and have typically been grouped into the following four general categories: (1) occupation/operational stressors (i.e., stressors related to...
the job/duty of a police officer); (2) organizational stressors (i.e., stressors related to the police agency); (3) intra/interpersonal stressors (i.e., stressors related to individual personality); and (4) stressors external to the police role and police agency (i.e., general life stressors) (Abdollahi, 2002; Ayers, 1990; Blackmore, 1978; Ellison, 2004; Ellison & Genz, 1983; Grencik, 1978; Stratton, 1978; Swanson et al., 2005; Wallace, 1978).

Unfettered exposure to these stressors leaves the individual police officer vulnerable to a host of physiological, psychological, and/or behavioral difficulties (Abdollahi, 2002; Anderson et al., 1995; Ellison, 2004; Gershon et al., 2009; Morash et al., 2006; Swanson et al., 2005; Violanti, 1983; Violanti et al., 1985), which can then have an adverse impact on both the police agency and public at large (Anderson et al., 1995; Armaranto et al., 2003; Ellison, 2004; Swanson et al., 2005). Indeed, stress in policing has been linked to: (1) an increased risk for coronary heart disease (Abdollahi, 2002; Gershon et al., 2009); (2) cardiovascular disease (Abdollahi, 2002; Franke et al., 1998; Gershon et al., 2009); (3) gastrointestinal disorders (Abdollahi, 2002; Gershon et al., 2009; Morash et al., 2006; Richard & Fell, 1975); (4) diabetes (Abdollahi, 2002; Milham, 1983); (5) headaches (Abdollahi, 2002; Kroes et al., 1974); (6) circulatory disorders (Abdollahi, 2002; Richard & Fell, 1975); (7) cancers of the esophagus, colon, and liver (Abdollahi, 2002; Milham, 1983; Violanti et al., 1986); (8) mortality (Abdollahi, 2002; Violanti et al., 1986); (9) anxiety disorders (Abdollahi, 2002; Dietrich & Smith, 1986; Violanti et al., 1986); (10) depression (Abdollahi, 2002; Brown & Campbell, 1990; Dietrich & Smith, 1986; Gershon et al., 2009; Morash et al., 2006; Violanti et al., 1986); (11) posttraumatic stress disorder (PTSD) (Abdollahi, 2002; Carlier et al., 2000; Gersons et al., 2000; Kates, 2008; Reiser & Geiger, 1984; Robinson et al., 1997); (12) job dissatisfaction, burnout, apathy, nervousness, restlessness, anger, suspiciousness, isolation, boredom, alienation, emotional
exhaustion, emotional distancing (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984); (13) drug/alcohol use and/or abuse (Abdollahi, 2002; Dietrich & Smith, 1986; Morash et al., 2006; Violanti et al., 1986); (14) hypervigilance (Gilmartin, 2002); (15) hyperagressiveness (Gershon et al., 2009; Paton et al., 1999; Violanti et al., 1985); (16) absenteeism (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984); (17) early retirement (Davidson & Veno, 1980; Malach-Pines & Kienan, 2006; Perrier, 1984); (18) increased rates of marital discord including domestic violence, infidelity, divorce (Morash et al., 2006; Terry, 1981); and (19) even suicide (Abdollahi, 2002; Kates, 2008; Morash et al., 2006).

Negative outcomes associated with stress at the agency level include poor productivity, low morale, problems with recruitment, as well as increased tardiness and/or absenteeism, rates of turnover, health care utilization, and workers’ compensation claims/costs (Gershon et al., 2009; Malach-Pines & Kienan, 2006; Tang & Hammontree, 1992).

In response to this laundry list of adverse consequences, the past two decades have seen a marked increase in the development and availability of stress management training programs and other psychological services specifically developed for police officers. Indeed, both Stinchcomb (2004) and MacMillan (2009) reported that in police agencies across the U.S., preventative stress management training programs are currently the most commonly utilized method for addressing police stress. Police agencies appear to prefer preventative stress management training programs because they: (1) allow for the assistance of all police officers rather than only the individuals who have developed a stress-related problem; (2) do not necessitate the admission of a problem prior to receiving assistance; and (3) are more cost-effective (Alkus & Padesky 1983; Farmer & Monahan, 1980a; Stinchcomb, 2004).
Unfortunately, despite the fact that these preventative stress management training programs have become more widespread and there is evidence suggesting promising results, the bulk of these conclusions are predicated on anecdotal, subjective, and impressionistic data. To date, there is little empirical evidence in the literature base describing the efficacy of these preventative stress management training programs. In this respect, the current study examined the impact that a comprehensive stress inoculation (SIT) program had on a small-sized city police department in the southwest of the U.S.

Specifically, it was hypothesized that: (1) police officers who participated in the SIT plus booster program would report significantly lower levels of organizational stress than police officers who participated in the SIT program and that police officers who participated in the SIT program would report significantly lower levels of organizational stress than police officers who participated in the delayed training; (2) police officers who participated in the SIT plus booster program would report significantly lower levels of operational stress than police officers who participated in the SIT program and that police officers who participated in the SIT program would report significantly lower levels of operational stress than police officers who participated in the delayed training; (3) police officers who participated in the SIT plus booster program would report significantly lower levels of perceived life stress than police officers who participated in the SIT program and that police officers who participated in the SIT program would report significantly lower levels of perceived life stress than police officers who participated in the delayed training; and (4) police officers who participated in the SIT plus booster program would report significantly lower levels of total mood disturbance than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly lower levels of total mood disturbance than police officers who participated in the delayed training.
program would report significantly lower levels of total mood disturbance than police officers who participated in the delayed training.

A secondary purpose of the current study was to evaluate the six subscales (i.e., depression, vigor, confusion, tension, anger, and fatigue) that comprise total mood disturbance on the POMS-SF. Here, it was hypothesized that: (1) police officers who participated in the SIT plus booster program would report significantly lower levels of depression than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly lower levels of depression than police officers who participated in the delayed training; (2) police officers who participated in the SIT plus booster program would report significantly higher levels of vigor than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly higher levels of vigor than police officers who participated in the delayed training; (3) police officers who participated in the SIT plus booster program would report significantly lower levels of confusion than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly lower levels of confusion than police officers who participated in the delayed training; (4) police officers who participated in the SIT plus booster program would report significantly lower levels of tension than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly lower levels of tension than police officers who participated in the delayed training; (5) police officers who participated in the SIT plus booster program would report significantly lower levels of anger than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly lower levels of anger than police officers who participated in the delayed training; and (6) police officers who
participated in the SIT plus booster program would report significantly lower levels of fatigue than police officers who participated in the SIT program and police officers who participated in the SIT program would report significantly lower levels of fatigue than police officers who participated in the delayed training.

A third and final purpose of the current study was to evaluate the correlates (i.e., age, length of service, gender, ethnicity, and special assignment) of police stress. Here it was hypothesized that: (1) age would be negatively correlated with self-reported levels of organizational stress, operational stress, perceived life stress, and total mood disturbance; (2) length of service would be negatively correlated with self-reported levels of organizational stress, operational stress, perceived life stress, and total mood disturbance; (3) male police officers would report significantly lower levels of organizational stress, operational stress, perceived life stress, and total mood disturbance than female police officers; (4) non-minority police officers would report significantly lower levels of organizational stress, operational stress, perceived life stress, and total mood disturbance than minority police officers; and (5) police officers with no special assignment would report significantly lower levels of organizational stress, operational stress, perceived life stress, and total mood disturbance than police officers with any special assignment.

To determine the efficacy of a comprehensive SIT program and explore these hypotheses, measures of the participants’ levels of organizational stress, operational stress, perceived life stress, and mood states were investigated as dependent variables. All 24 participants were sworn members of the small-sized city police department, age 28 to 58, and were recruited (see Appendix A for recruitment script) through in-person visits to various work group meetings (e.g., roll-call during each shift) at police department headquarters. These twenty-four participants then
completed a questionnaire packet containing a host of measures related to demographics (see Appendix C), potential organizational stressors, potential operational/occupational stressors, potential life event stressors, and mood states. Each of these 24 participants were then randomly assigned to one of the following three treatment conditions: (1) delayed training; (2) SIT program; and (3) SIT plus booster program. There were an equal number of participants ($n = 8$) per group (delayed training, SIT program, SIT plus booster program). A total of 16 participants (members of both the SIT program and SIT plus booster program) were then exposed to a comprehensive SIT program (see Appendix D for a brief SIT program outline), which consisted of four, 90-minute sessions that took place over the course of one month. Subsequent to the conclusion of the final (i.e., fourth) session of the comprehensive SIT program, all 24 study participants were post-tested at police department headquarters. After approximately one month, the eight participants assigned to the SIT plus booster program were contacted and the booster sessions (see Appendix F for booster session protocol) were conducted over the phone at the participants’ convenience. Approximately one week after completing the booster sessions, all 24 study participants took part in a final, follow-up, assessment at police department headquarters.

To assess whether self-reported level of organizational (as measured by the organizational police stress questionnaire, PSQ-Org), operational (as measured by the operational police stress questionnaire, PSQ-Op), total mood disturbance (as measured by the profile of mood states-short form, POMS-SF), depression (as measured by the POMS-SF Depression subscale), vigor (as measured by the POMS-SF Vigor subscale), confusion (as measured by the POMS-SF Confusion subscale), tension (as measured by the POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale) was impacted by participation in the SIT program or SIT plus...
booster program, a multivariate analysis of covariance (MANCOVA) was conducted. If the MANCOVA was statistically significant, individual analyses of covariance (ANCOVAs) were conducted. If the individual ANCOVAs were statistically significant, pair-wise comparisons were conducted to determine where the significant differences occurred. To assess whether self-reported level of perceived life stress (as measured by the PSS-10) was impacted by participation in the SIT program or SIT plus booster program, a multivariate analysis of covariance (MANOVA) was conducted. If the MANOVA was statistically significant, individual analyses of variance (ANOVAs) were conducted. If the ANOVAs were statistically significant, pair-wise comparisons were conducted to determine where the significant differences occurred. To assess the relationship between specific demographic variables (i.e., age and length of service) and self-reported level of organizational (as measured by the PSQ-Org), operational (as measured by the PSQ-Op), perceived life stress (as measured by the PSS-10) total mood disturbance (as measured by the POMS-SF), depression (as measured by the POMS-SF Depression subscale), vigor (as measured by the POMS-SF Vigor subscale), confusion (as measured by the POMS-SF Confusion subscale), tension (as measured by the POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale), Pearson correlations were conducted as age and length of service were treated as continuous variables. To assess the relationship between specific demographic variables (i.e., gender, ethnicity, and special assignment) and self-reported level of organizational (as measured by the PSQ-Org), operational (as measured by the PSQ-Op), perceived life stress (as measured by the PSS-10) total mood disturbance (as measured by the POMS-SF), depression (as measured by the POMS-SF Depression subscale), vigor (as measured by the POMS-SF Vigor subscale), confusion (as measured by the POMS-SF Confusion subscale), tension (as measured by the POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale), Pearson correlations were conducted as age and length of service were treated as continuous variables.
POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale) a MANCOVA was proposed as gender, ethnicity, and special assignment were treated as grouping variables. Unfortunately, due to sample size variations, the proposed MANCOVAs by ethnicity and special assignment were not conducted.

Organizational Stress

Organizational stress in police work is characterized by certain things and/or practices that are common in police organizations but that are not related to the tasks and/or duties of the police officer (Abdollahi, 2002; Ellison, 2004; Toch, 2002). Included here are such things as shift work, inadequate supervision, poor supervisory relationships, lack of input into policy and/or decision making, lack of recognition, insufficient administrative support, excessive paperwork, insufficient pay, poor resources, and role conflict/ambiguity (Abdollahi, 2002; Ayers, 1990; Ellison, 2004; Toch, 2002).

Results partially supported the notion that organizational stress (as measured by the PSQ-Org) would be reduced for police officers participating in the SIT program. Specifically, it was discovered that police officers in the SIT program reported reduced organizational stress approximately one month after having participated in the SIT program (i.e., at follow-up testing). As previously mentioned, preventative stress management training programs have become a widespread response in dealing with police stress in police agencies, yet there is a paucity of empirical evidence describing the efficacy of these preventative stress management training programs. In fact, to date, only four studies were identified in the literature base that investigated the efficacy of an SIT (or SIT-like) program for police officers (Garner, 2008; Novaco, 1977;
Oliver and Meier, 2009; Sarason et al., 1979). Furthermore, none of these four studies specifically investigated the potential impact that an SIT (or SIT-like) program might have on reducing organizational stressors.

However, this result is not surprising in light of the fact that there is an extensive body of literature citing organizational stressors as the main culprits linked to police stress (Abdollahi, 2002; Ayers, 1990; Ayers & Flanagan, 1994; Brown & Campbell, 1990; Crank & Caldero, 1991; Davidson & Veno, 1980; Ellison, 2004; Gershon et al., 2009; Kroes, 1976; Page & Jacobs, 2011; Sewell, 1981; Shane, 2010; Stratton, 1978; Toch, 2002; Violanti & Aron, 1993). Indeed, Shane (2010), utilizing both the PSQ-Org and PSQ-Op, found that police officers in urban departments identified aspects associated with the organization as being most stressful. As Brown and Campbell (1994) mentioned, “when police themselves were asked to list significant causes of stress they nominated…organizational features…as the most significant sources of stress at work…” (p. 14). This sentiment was echoed in the current study in that, during the initial session of the SIT program, all (save for one, which detailed an operational stressor) examples of stress-inducing situations generated by group members detailed organizational stressors rather than operational stressors, general life stressors, or mood states. As such, during the third session of the SIT program in which group members were led through guided imagery so as to rehearse how relaxation techniques and cognitive restructuring could be applied to identified stress-inducing situations, the focus was much more on organizational stressors as opposed to operational, general life stressors, or mood states. Likewise, in the fourth session of the SIT program in which group members participated in role-play scenarios developed from their identified stress-inducing situations, the focus was again on organizational stressors as opposed to operational, general life stressors, or mood states.
Contrary to expectations, results did not support the notion that organizational stress (as measured by the PSQ-Org) would be reduced for police officers participating in the SIT program at post-test or for police officers participating in the SIT plus booster program. Why this is the case, particularly in light of the fact that those in the SIT program reported reduced organizational stress approximately one month after having participated in the SIT program (i.e., at follow-up testing), remains unclear. One explanation could be related to the issue of temporal ordering. That is, the post-test questionnaire was filled out by study participants (delayed training, SIT program, SIT plus booster program) no later than a week after the conclusion of the SIT program and the follow-up questionnaire was filled out by study participants (delayed training, SIT program, SIT plus booster program) no later than a week after the conclusion of the booster sessions. This raises the question of whether or not there should be a greater time lag between completion of the SIT program and post-test as well as between completion of the booster sessions and follow-up. For instance, it could be that it takes participants a certain amount of time, perhaps up to a month or more, to become adept at utilizing techniques gained during the SIT program or reinforced during booster sessions. As such, a future study should consider post-test and follow-up at a variety of times other than within a week of completing the SIT program or SIT plus booster program. This should allow investigators to better assess how long it might take program participants to effectively utilize and apply any stress management techniques taught and/or reinforced during these programs.

Operational Stress

In regard to operational stress, policing, as an occupation, involves the performance of a variety of essential operational tasks that often have the potential to be traumatic, harmful, and
life-threatening (Abdollahi, 2002). Consequently, one area that police stress researchers often examine is the stress that may arise as a result of the wide assortment of operational tasks police officers perform (Abdollahi, 2002; Anshel, 2000; Brown & Campbell, 1994; Crank & Caldero, 1991; Kroes, 1979; Kroes et al., 1974; MacLeod & Paton, 1999; Storch & Panzarella, 1996; Stephens & Long, 2000; Symonds, 1970). From this line of research, Abdollahi (2002) lists a number of stressors associated with the essential operational tasks of a police officer, including dealing with the courts/judicial system, media coverage/scrutiny, community relations, using/witnessing deadly force, encountering victims of crime/brutality and fatalities, and encountering violent and/or unpredictable situations.

Results did not support the notion that operational stress (as measured by the PSQ-Op) would be reduced for police officers participating in the SIT program or the SIT plus booster program. Why operational stress was not reduced for those police officers who participated in the SIT program or in the SIT plus booster program is unclear. As Page and Jacobs (2011) point out, it may be that police officers already recognize the potential operational stressors as an unavoidable aspect of a career in law enforcement. If this is the case, it can be surmised that the potential operational stressors are an accepted reality in the life of a police officer and, as such, viewed as being less stress inducing (Page & Jacobs, 2011).

Another explanation that may shed some light upon why operational stress was not reduced for those police officers who participated in the SIT program or in the SIT plus booster program is related to the previously mentioned fact that during the initial session of the SIT program, all (save for one, which detailed an operational stressors) examples of stress-inducing situations generated by group members detailed organizational stressors rather than operational stressors. This one other scenario identified operational stressor generated by group members
detailed making a roadside stop and/or arrest on a major highway. Although the bulk of participants in the treatment groups were patrol officers, there were also a number of detectives and training officers. As such, the scenario detailing making a roadside stop and/or arrest on a major highways has less salience for those who aren’t patrol officers.

The lack of observed significant differences between treatment groups (i.e., delayed training, SIT program, SIT plus booster program) may have also been influenced by the improvements observed across all groups at post-test and follow-up. Although the observed improvement of the delayed training group did not equal that of the SIT program group or SIT plus booster program group, it improved enough to sufficiently narrow the margin for reaching statistical significance. One explanation for this may have to do with the diffusion effect. A diffusion effect refers to instances when treatment that has been applied to one group spills over and/or contaminates another group (Neutens & Rubinson, 2010). Thus, differences in the variable(s) of interest are diminished between treatment groups. The current study was conducted in a small-sized city police department with a police force consisting of 132 sworn officers. It is not inconceivable that those officers in either treatment group (i.e., SIT program, SIT plus booster program) might have shared contents of the SIT program with those officers in the delayed training group. Controlling for the diffusion effect can present a number of challenges. However, a future study should emphasize the necessity of keeping all aspects of the study in the strictest confidence until completion of the study. Furthermore, if feasible, a future study should use police officers from another department as the control group. Here, special attention would need to be placed on choosing police departments in which the treatment groups would be matched as closely as possible on demographic variables.
Perceived Life Stress

A large body of research has validated that there is a positive relationship between major life events and increased levels of stress as well as physical, psychological, and behavioral difficulties (Blau, 1994; Ellison, 2004; Tein et al., 2000). Major life events tend to have beginning and end points that span a considerable period of time and require a significant life readjustment that involves a variety of behavioral and/or psychological processes (Blau, 1994; Ellison, 2004; Tein et al., 2000). That is, the individual experiencing a major life event may be required to adopt a new identity and this typically takes a significant amount of time (Blau, 1994; Ellison, 2004; Tein et al., 2000). Although not exhaustive, the following are events commonly identified as major life events: (1) death of a family member or friend; (2) marriage; (3) divorce; (4) pregnancy; (5) miscarriage; (6) birth of a child; (7) child leaving the home; (8) loss of job; (9) demotion; (10) retirement; (11) bankruptcy; (12) lawsuits; (13) moving; and (14) serious illness/injury (Blau, 1994; Ellison, 2004; Tein et al., 2000).

Interestingly, results of the overall model indicated that there was a statistically significant difference between treatment groups on perceived life stress (as measured by the PSS-10). However, on further analysis, results did not support the notion that perceived life stress (as measured by the PSS-10) would be reduced for police officers participating in the SIT program or the SIT plus booster program. Findings here appear to be influenced by the increased score of the delayed training group on perceived life stress at follow-up. Although the SIT program group and SIT plus booster program group demonstrated improvement on perceived life stress at follow-up, this improvement may not have been sufficient enough to widen the margin for statistical significance.
Furthermore, recall that violating the assumption of homogeneity of regression slopes, the covariate, pre-PSS-10 scores, were removed from the analysis and a MANOVA was conducted rather than a MANCOVA. The disadvantage of having to utilize a MANOVA is that it is a less powerful test of mean differences between groups than MANCOVA. In MANOVA, one is unable to remove the variance associated with the covariate from error variance as one is able to do in MANCOVA. In this case, it might be expected that if a MANCOVA had been able to be conducted, one might have been better able to tease out where the differences lie between groups in regard to perceived life stress. As such, a future study should consider use of a life stress scale other than the PSS-10 as this may reduce the chance of violating the assumption of homogeneity of regression slopes and allows use of a MANCOVA.

As discussed previously, another explanation for this result relates to the fact that during the initial session of the SIT program, all (save for one, which detailed an operational stressor) examples of stress-inducing situations generated by group members detailed organizational stressors rather than general life stressors.

**Total Mood Disturbance and Total Mood Disturbance Subscales**

*(Depression, Confusion, Tension, Anger, Fatigue, and Vigor)*

Mood states are transient, subjective feelings that are typically sustained for a matter of minutes to a few days (O’Connor, 2006). Mood states differ from emotional states in that emotional states tend to be shorter and more intense (O’Connor, 2006). According to O’Connor (2006), emotions are “akin to the rainstorm in your backyard…the weather forecast is the mood” (p. S7). Mood states are typically defined in the following ways: positive (e.g., happy), negative (e.g., sad), general (e.g., feeling bad), or specific (e.g., feeling angry) (O’Connor, 2006). The
POMS-SF was developed as a brief measure to assess for these transient mood states. In fact, the POMS-SF appears to be the most widely used and accepted measure of mood (O’Connor, 2006). In the current study, the POMS-SF was used to assess any mood changes produced by having participated in the SIT program or SIT plus booster program.

Results did not support the notion total mood disturbance (as measured by the POMS-SF), depression (as measured by the POMS-SF Depression subscale), confusion (as measured by the POMS-SF Confusion subscale), tension (as measured by the POMS-SF Tension subscale), anger (as measured by the POMS-SF Anger subscale), and fatigue (as measured by the POMS-SF Fatigue subscale) would be reduced for police officers participating in the SIT program or the SIT plus booster program. These results make sense in light of recent findings from a meta-analysis of 12 studies that examined the impact that a variety of stress management interventions (e.g., eye movement desensitization and reprocessing, EMDR; debriefing; goal setting; time management; financial planning; physical fitness; meditation; progressive relaxation; biofeedback; social support; and cognitive-behavioral coping strategies) had on psychological outcomes such as anger, anxiety, and depression (Patterson, Chung, & Swan, 2012). Here, “near null” (Patterson et al., 2012, p. 6) effects were found for all listed psychological outcomes. Also, recall that although the previous cited research by Novaco (1977) found an SIT program to be effective in assisting police officers deal with anger, this was based on anecdotal evidence rather than outcome data.

As was the case with the other variables of interest (i.e., organizational stress, operational stress, and perceived life stress) another explanation for this result relates to the aforementioned fact that during the initial session of the SIT program, all (save for one, which detailed an operational stressor) examples of stress-inducing situations generated by group members detailed
organizational stressors rather than on improving specific mood states. Thus, during the third session of the SIT program in which group members were led through guided imagery so as to rehearse how relaxation techniques and cognitive restructuring could be applied to the identified stress-inducing situations, there was no discussion on improving specific mood states. Likewise, in the fourth session of the SIT program in which group members participated in role-play scenarios developed from their identified stress-inducing situations, there was no focus on specific mood states.

Results partially supported the notion that level of vigor (as measured by the POMS-SF Vigor subscale) would be increased for police officers participating in the SIT program or the SIT plus booster program. Specifically, it was found that level of vigor was increased for police officers participating in the SIT plus booster program both subsequent to the SIT program (i.e., at post-testing) and booster session (i.e., at follow-up testing). Interestingly, it was discovered that level of vigor was increased for police officers participating in the SIT program approximately one month after having participated in the SIT program (i.e., at follow-up testing), yet not subsequent to having participated in the SIT program (i.e., at post-testing).

According to O’Connor (2006), the Vigor subscale on the POMS-SF is a measure of energy, with energy being defined as “feelings of having the capacity to complete mental or physical activities” (p. S7). So, why is it that the police officers who participated in the SIT program only reported increased energy (i.e., vigor) subsequent to follow-up testing (recall, the SIT program and SIT plus booster program groups received the SIT program together) whereas the police officers who participated in the SIT plus booster program reported increased energy (i.e., vigor) subsequent to both post-testing and follow-up?
No other study was discovered in the literature base that explored the potential relationship between police officers, stress, and the Vigor subscale of the POMS-SF. As such, why this is remains unclear. It may be that the SIT program treatment group and the SIT plus booster program treatment group each possess unique attributes that may have impacted their self-reported level of energy (i.e., vigor). For instance, the average age of participants in the SIT plus booster program was 35 years, whereas the average age of participants in the SIT program was 38.25 years. Perhaps age moderated the relationship between participating in the treatment conditions and self-reported level of energy (i.e., vigor), with younger participants reporting higher levels of energy (i.e., vigor) at both post-testing and follow-up. Also, the average number of years serving as a police officer in the current department for participants in the SIT plus booster program was 7.5 years, whereas the average number of years serving as a police officer in the current department for participants in the SIT program was 9.25 years. Perhaps length of service in the current department moderated the relationship between participating in the treatment conditions and self-reported level of energy (i.e., vigor), with participants who have served fewer years in the current department reporting higher levels of energy (i.e., vigor) at both post-testing and follow-up. Furthermore, the average number of years serving as a police officer in general for participants in the SIT plus booster program was 8.8 years, whereas the average number of years serving as a police officer in general for participants in the SIT program was 10.13 years. Perhaps overall length of service as a police officer moderated the relationship between participating in the treatment conditions and self-reported level of energy (i.e., vigor) with participants who have served fewer overall years as a police officer reporting higher levels of energy (i.e., vigor) at both post-testing and follow-up. Although the sample size in the current study was not sufficient enough to do so, future studies (with sufficient sample sizes) should
consider using a method of sampling known as stratified random sampling. In stratified random sampling, the population of interest is divided into smaller groups, or strata. These strata are formed based on members' shared attributes or characteristics (e.g., age, length of service as a police officer in the current department, or length of service as a police officer overall). A random sample from each stratum is then taken in a number that is proportionate to the stratum's size in comparison to the population of interest. These subsets of the strata are then pooled to form a random sample, which would allow one to investigate the potential impact that shared attributes or characteristics (e.g., age, length of service) might impact between treatment conditions and self-reported level of energy (i.e., vigor).

*Correlates of Police Stress (Age, Length of Service, Gender, Race/Ethnicity, and Special Assignment)*

Those with an interest in police stress have recently begun to explore certain demographic variables hypothesized to have an impact on how an individual police officer experiences stress. Here, variables such as gender, race/ethnicity, department size, special assignments, length of service, and age are beginning to be explored as possible correlates of police stress (Anderson et al., 1995; Anshel, 2000; Aron, 1991; Balkin, 1988; Brooks & Piquero, 1998; Brown & Campbell, 1990; Bullard, 1980; Crank & Caldero, 1991; Deaux & Ullman, 1983; Ellison, 2004; Finn & Tomz, 1997; Gaines et al., 1991; Goolkasian et al., 1978; He et al., 2005; Kroes, 1976; Kaslof, 1989; Martin, 1990; Mastrofski, 1981; Pendergrass & Ostrove, 1984; Terry, 1981; Violanti, 1983; Violanti & Aron, 1995; White et al., 1985). With this in mind, the current study examined the possible correlation between stress and the following demographic
variables: age, length of service as a law enforcement officer, gender, race/ethnicity, and special assignment.

Results did not support the notion that stress correlated with age, length of service as a law enforcement officer, gender, race/ethnicity, and special assignment. This is surprising in light of the wealth of recent research hypothesizing that these types of demographic variables would have an impact on an individual law enforcement officer’s self-reported level of stress (Anderson et al., 1995; Anshel, 2000; Aron, 1991; Balkin, 1988; Brooks & Piquero, 1998; Brown & Campbell, 1990; Bullard, 1980; Crank & Caldero, 1991; Deaux & Ullman, 1983; Ellison, 2004; Finn & Tomz, 1997; Gaines et al., 1991; Goolkasian et al., 1985; Hageman, 1978; He et al., 2005; Kroes, 1976; Kaslof, 1989; Martin, 1990; Mastrofski, 1981; Pendergrass & Ostrove, 1984; Terry, 1981; Violanti, 1983; Violanti & Aron, 1995; White et al., 1985).

However, this is not surprising in light of the small sample size achieved in the current study. It is likely that the sample size achieved in the current study was too restricted in order to tease out any possible correlation that might exist between these types of demographic variables and self-reported levels of stress. As such, a larger sample size may be necessary in order to more accurately delineate if these types of demographic variables correlated with self-reported levels of stress. Furthermore, as previously mentioned, a larger sample size would allow one to utilize stratified random sampling to investigate not only whether these types of demographic variables correlate with self-reported levels of stress but also the potential impact these variables might have on treatment conditions and self-reported level of stress.
Results from the SIT evaluation form (see Appendices E and G) suggest that, by and large, the police officers who participated in the SIT program felt that it was a beneficial experience and would recommend the SIT program to other police officers and/or police departments/agencies.

Limitations

Although results from the current study appear to support the efficacy of an SIT program for police officers, particularly in reducing self-reported levels of organizational stress and increasing self-reported levels of energy (i.e., vigor), caution should be taken in interpreting results and several limitations must be noted.

Population

One limitation of the current study is that the population under investigation was limited to police officers (largely male and Caucasian) in a small-sized city police department in the southwestern United States, which brings into question the generalizability of the current study’s results to other police officers. In particular, the results of the current study may only be generalizable to other police officers serving in small-sized city police departments in the southwestern United States rather than to police officers serving in more rural or larger urban police departments in other geographic regions. In fact, there is evidence in the literature base supporting the notion that police officers in larger departments differ in regard to behavior and attitude in comparison to police officers in smaller departments (Brown, 1981; Ellsion, 2004; Mastrofski, 1981; Swanson; 2005). Furthermore, while most police departments adopt similar
policies, rules/regulations, and rank structure, larger police departments tend to be more autocratic while smaller police departments tend to be more democratic and/or participatory (Brown, 1981; Ellsion, 2004; Mastrofski, 1981; Reiser, 1974; Swanson; 2005). White and Marino (1983) linked an autocratic management style to increased stress due to police officers’ perception of being in less control of their work activities. Larger police departments, when compared to smaller police departments, have also been characterized as being more impersonal, self-serving, and indifferent (Brown, 1981; Ellsion, 2004; Mastrofski, 1981; Reiser, 1974; Swanson; 2005; White & Marino, 1983).

Sample Size

Another limitation of the current study is the restricted sample size. In planning the current study, an a priori power analysis for a MANCOVA with three levels and four dependent variables was conducted in G-POWER to determine a suggested sample size using an alpha of 0.05, a power of 0.80, and a medium effect size of .25 (Faul et al., 2008). Based on the aforementioned assumptions, the desired sample size was 39. Consequently, each treatment condition (i.e., delayed training, SIT program, and SIT plus booster program) required a total of 13 participants. With a population of 132 police officers from which to recruit participants, the current study needed participation from approximately 30% of the sampled population.

Initially, to assist recruiting efforts to achieve the suggested sample size of 39 participants, the student investigator participated in the police department’s Citizen's Police Academy. The Citizen’s Police Academy, which met for three hours each week for 13 weeks, is a program designed to educate residents about how the local police department functions. Participation in the Citizen’s Police Academy allowed the student investigator an opportunity to
better understand the variety of facets of the police department as well as establish and build rapport with the law enforcement personnel. Subsequent to graduating from the Citizen’s Police Academy, the student investigator met with the police Chief to explain the purpose of the Stress Inoculation Training (SIT) study and the potential benefits to the individual officer(s) as well as the police department at large.

After the police Chief provided consent to have his department participate in the SIT study and subsequent to approval from the UNT IRB for Human subjects, volunteers were solicited through in-person visits to various work group meetings (e.g., roll-call during each shift) at police department headquarters. After approximately two months of recruiting efforts, which included making multiple visits to these work group meetings (e.g., roll-call during each shift), the current study garnered 24 participants. Additional efforts aimed at increasing this sample size included having: (1) sought out more participants through other local police departments with the assistance of the police Chief; (2) contacted the Badge of Life program (a program aimed at preventing police suicide) based in California for referrals to any police departments that might have interest in participating in the SIT study; and (3) contacted a variety of police departments in southwestern United States that might have interest in participating in the SIT study. Unfortunately, despite these additional recruiting efforts, no other law enforcement entities/police departments expressed interest.

As such, the current study (with 24 participants) fell short of the 39 participants suggested by the a priori power analysis (standard significance level of $p < .05$, an anticipated effect size of .25, and a desired power level of .80). However, in situations in which the sample size suggested by the a priori power analysis exceeds available resources and/or when pragmatic constraints prohibit one from following the sample size recommendations from the a priori
power analysis, conducting a compromise power analysis before or after data collection can be helpful (Erdfelder, 2010; Erdfelder, Faul, and Buchner, 1996; Faul, Erdfelder, and Buchner, 2007). In a compromise power analysis, investigators:

specify the size of the effect to be detected, the maximum possible (or achieved) sample size, and the ratio $q = \beta/\alpha$, which defines the relative seriousness of both types of errors. Given these specifications, an optimal critical value for the test statistic and the associated $\alpha$ and $\beta$ values is computed. This optimal critical value is a rational compromise between the demands for a low $\alpha$ risk and a larger power level, given a fixed effect size, and an error ratio of $q$. (Erdfelder et al., 1996, p. 2)

With this in mind, a compromise power analysis was conducted for the current study based upon an expected effect size of .5, the sample size of 24, and a $q$ ratio of 1. Results of the compromise power analysis indicated that, with these specifications, power would be .79 and the $\alpha$ error would be .2 and the $\beta$ error would also be .2. Erdfelder et al. (1996) cautions that a compromise power analysis may produce non-standard levels of $\alpha$ and $\beta$ and that, though unusual, these error probabilities are reasonable and that a reduced sample size still provides the basic information sought through the research question(s)/hypotheses. Furthermore, according to statistics consultant, Dr. James Lani, owner of Statistics Solutions (an online statistics consulting firm), a sample size of 24 “isn’t great obviously,” yet based upon the compromise power analysis “it’s workable” and will produce “robust results” (J. Lani, personal communication, January 7, 2013).

Although both the compromise power analysis and Dr. Lani supported moving forward with a sample size of 24, this still begs the question of why, despite the additional recruiting efforts, more police officers and/or departments did not express interest in participating in the current study. As many studies point out, individuals with certain personality traits are drawn to a career in law enforcement and, once in a law enforcement career, these same personality traits tend to be reinforced by the unique subculture within the field of law enforcement (Ellsion, 2004;
Hackett & Violanti, 2003; Paton, Violanti, Burke, & Gehrke, 2009). Common personality traits associated with police officers include: courage, loyalty, self-assertiveness, hardness, Type A, authoritarianism, conservatism, secretiveness, suspiciousness, and cynicism (Ellsion, 2004; Hackett & Violanti, 2003; Lefkowitz, 1975; Paton et al., 2009). Here, it’s not hard to imagine that individuals who might be more suspicious and cynical would be more reticent to participate in psychological research.

In fact, Hackett and Violanti (2003) have stated that police officers avoid mental health professionals due to having a certain level of mistrust towards the field of psychology and mental health professionals. According to Hackett and Violanti (2003):

many law enforcement officers see psychologists as people who get criminals off and cannot seem to cure the severely mentally ill people that law enforcement must repeatedly deal with in the field. They may believe that “only crazy people” go to psychologists or other mental health professionals and that just talking to a mental health professional could not possibly help. (p. 21)

Another of the reasons why police officers might be reticent to participate in psychological research include: (1) that help seeking behavior is in direct conflict with the image of a police officer being courageous and able to protect others in dangerous situations; (2) they may fear being judged by, and looking weak to, peers and/or supervisors; (3) they may fear being passed over for a promotion and/or special assignment; and (4) they may fear that their fitness for duty will be called into question and, as such, may lose their job (Waters & Ussery, 2007).

**Self-Report Instruments**

A third limitation of the current study stems from the fact that outcome data was gathered through use of self-report instruments. Although the self-report method is the field of psychologies most commonly utilized method of assessment, the validity and reliability of self-
report instruments has come under scrutiny (Paulhus & Vazire, 2007). Despite respondents best attempts to be open and honest, self-reports are subject to a variety of inaccuracies (Paulhus & Vazire, 2007).

One such inaccuracy relevant to the current study is the response bias known as socially desirable responding. Socially desirable responding refers to the tendency of respondents to answer, whether deliberately or unconsciously, self-report questions in such a way so as to represent themself in the most favorable light possible. A variety of factors can propel respondents to give socially desirable responses, including the setting in which the treatment/research is conducted, the perceived purpose of the research, and worries about how one’s answers might be perceived and/or utilized (e.g., for promotion, special assignment, job security). With this in mind, it’s feasible that police officers may under-report the severity or frequency of symptoms associated with stress in order to minimize their problems. Respondents might also have been subject to recall bias in that one of the questionnaires required them to recall details surrounding past stressful events. Self-report instruments are also inherently biased by the respondents’ emotions and/or moods at the time they filled out the questionnaire. Fortunately, the anonymous nature of the questionnaires, the effort of the student investigator to build trust and rapport through attending the Citizen’s Police Academy, and the fact that respondents were only asked to recall events that occurred within the past six months may have mitigated some of these problems.

Convenience Sample/Self-Selection Bias

Another limitation has to do with use of a convenience sample and self-selection bias. Although participants were randomly assigned to the three treatment conditions, they were
originally obtained through use of a convenience sample. That is, prior to being randomly assigned to one of the three treatment conditions, the 24 participants volunteered to take part in the current study. For this reason, the 24 participants may represent a selective subgroup of police officers. Such individuals who were willing to complete a questionnaire packet at three different times and take part in a SIT program may be fundamentally different from other police officers. That is, those volunteering might have done so because they are having a more or less difficult time adjusting to the wide array of stressors associated with police work than those individuals who were not motivated to volunteer.

*Population Choice Bias*

Population choice bias refers to when the sample is restricted, or excludes, important subgroups of the population such as women (gender bias) or individuals in specific age groups (age bias). In the current study, during the recruitment phase, potential volunteers were asked to exclude themselves from the study if they had a prior history of mental health difficulties. Similar to the case of self-selection bias, those individuals who fit with this criterion and were excluded from the current study may not respond to the questionnaires in the same way as those participants who did not fit with this criterion and had no prior history of mental health difficulties. Thus, results may not be generalizable to police officers with a prior history of mental health difficulties.

*Miscellaneous*

Other limitations of the current study include the following threats: history, maturation, testing, and regression artifacts. A history threat refers to any event, other than the planned
treatment, that might have occurred between pre-test, post-test, and follow-up measurement and could possibly influence the dependent variable(s). In the current study, approximately two weeks into the four week SIT program, the police department began an Internal Affairs investigation. As such this “history event” may have confounded the results. However, in all likelihood, an Internal Affairs investigation would have resulted in higher organizational stress scores rather than the trend towards (and statistically significant) decreased organizational stress scores, particularly for those participants in the SIT group at follow-up.

A maturation threat refers to any changes that occur over time, within the individual, that impacts the dependent variable(s). A testing threat refers to any changes in the scores on repeated administrations of a questionnaire that results from already having filled out the questionnaire at pre-test. A regression artifacts threat refers to the tendency for scores on repeated measures to regress to the mean on subsequent administrations (i.e., high scores become lower over time and low scores become higher over time).

A final limitation of the current study is that the SIT program and booster sessions were conducted by the same facilitator. The methodology in which this facilitator utilized to conduct the SIT program and booster sessions may or may not represent the most valid and effective way in which to present the contents of the SIT program and booster sessions. Future studies should consider employing several facilitators in order to control for this limitation.

Implications and Future Directions

Despite the aforementioned methodological limitations, the data does suggest that an SIT program may be beneficial in assisting small-sized city police officers in the southeastern United States reduce self-reported levels of organization stress and increase self-reported levels of
energy (i.e., vigor). Though not definitive, the results of the current study make a welcome
correlation to the paucity of empirical evidence regarding the efficacy of preventative stress
management programs for police officers. The results of the current study, in combination with
the fact that preventative stress management programs are currently the most commonly
employed method for addressing police stress (MacMillan, 2009; Stinchcomb, 2004), hold a
number of implications for: (1) future research, (2) the police department/agency, and (3) the
individual law enforcement officer.

Future Research

As previously mentioned, one of the major limitations of the current study was the
restricted sample size. Therefore, future research should make a concerted effort to increase the
participant pool. However, this is much easier said than done. Although preventative stress
management programs and mental health counseling have been made available, police officers
have historically underutilized these types of programs and services. Again, police officers may
be hesitant to take advantage of these types of programs and services due to: (1) the “police
personality;” (2) the subculture of law enforcement; (3) the fact that help seeking behavior is
in direct conflict with the image of a police officer being courageous; (4) the fact that they may
fear being judged by, and looking weak to, peers and/or supervisors; (5) the fact that they may
fear being passed over for a promotion and/or special assignment; and (6) the fact that they may
fear that their fitness for duty will be called into question and, as such, may lose their job
(Ellison, 2004; Hackett & Violanti, 2003; Lefkowitz, 1975; Paton et al., 2009; Waters & Ussery,
2007). This then begs the question of how does one overcome these factors and attempt to recruit
and/or engage as many police officers as possible in preventative stress management programs
and/or other mental health services?

One suggestion to minimize the impact that these factors may have on recruitment and/or
participation is to be qualified to discuss, and knowledgeable about, police work. As Finn and
Tomz (1997) point out, when thinking about taking part in mental health programming, police
officers often consider whether or not they will feel comfortable with the program staff and
whether the program staff has the qualifications to treat police officers. Similar to many other
populations, police officers tend to prefer a mental health professional who understands the
unique role that police officers play as well as the traditions and culture in law enforcement (Finn
& Tomz, 1997). In the current study, the student investigator took part in the local police
department’s Citizen Police Academy, which allowed the student investigator an opportunity to
better understand the variety of facets of the police department, as well as establish and build
rapport with the police officers within this particular department. Future investigators and/or
mental health professionals should consider taking part in their local police department’s Citizen
Police Academy. If this is not feasible, or a Citizen Police Academy is not offered, it is suggested
that future investigators and/or mental health professional take part in their local police
department’s Ride Along programs.

Another suggestion to increase recruitment and/or participation is to make every effort to
ensure confidentiality. According to Delprino and Bahn (1998), one of the biggest hurdles in
police officers participating in mental health programming is the fear of a lack of confidentiality.
Therefore, it is incumbent upon the future researcher and/or mental health professional to ensure
that the proper steps are taken to ensure that client records are maintained in such a way so as to
remain confidential. Relatedly, one must ensure that what police officers say, whether in an
individual or group setting, remains confidential. Here, the physical location of any mental health programming needs to be taken into consideration. As Finn and Tomz (1997) point out, the physical location of any mental health programming for police officers must be easily accessible, yet private. Police officers are less likely to travel to a distant location or go to a location in which they fear being seen by supervisors (Finn & Tomz, 1997). Indeed, in the current study, an anonymous response on the SIT program evaluation form (see Appendix G) echoed this sentiment by suggesting that future mental health programming take place in a neutral setting rather than in the police department. The SIT program associated with the current study was conducted at the police department. As such, future investigators and/or mental health professionals are encouraged to conduct mental health programming at a neutral site. Doing this may help to increase recruitment and/or participation.

With an increase in recruitment and/or participation, the sample size should be large enough to mitigate some of the problems associated with generalizability of results. For instance, with a larger sample size, future research should: (1) compare the efficacy of preventative stress management programs between small, mid-sized, and large police departments/agencies; (2) further explore the potential moderators/correlates of police stress (e.g., gender, ethnicity/race, special assignment, length of service, and age) and how they might impact self-reported levels of stress; (3) utilize stratified sampling methods; and (4) use separate police departments/agencies for each treatment condition.

Another suggested direction for future research would be to explore the content of the SIT program. The results of the current study (i.e., decrease in self-reported levels of organizational stress for those police officers that participated in the SIT program) make sense in light of the fact that during the initial session of the SIT program, all examples of stress-inducing
situations generated by group members detailed organizational stressors rather than operational stressors, general life stressors, or mood states. As such, in subsequent sessions, the focus was much more on organizational stressors. Future research might incorporate additional SIT program sessions in which the focus is on operational stressors, general life stressors, and mood states. For instance, this would entail an additional three, 90-minutes session with one session focused on operational stressors, another session focused on general life stressors, and another session focused on mood states. Doing this, future research might unearth similar results with these other stressors as the current study did with organizational stressors.

Yet another interesting avenue for future research to explore would be the issue of temporal ordering. That is, conducting post-test and follow-up at a variety of times other than within a week of completing the SIT program or SIT plus booster program. This should allow investigators to better assess how long it might take program participants to effectively utilize and apply any stress management techniques taught and/or reinforced during these programs. Relatedly, future research should consider use of a longitudinal design.

The Police Department/Agency

Results of the current study appear to support the fact that organizational stressors (i.e., police departments/agencies themselves) represent the largest source of stress for police officers. Therefore, it is incumbent upon police departments/agencies to continue devoting resources to funding preventative stress management programs, as well as to find ways to improve the work environment for police officers. Indeed, Ayers (1990) suggests that “an organization-centered approach – that is, identifying problems the officers have with their work, supervisors, and pay and making appropriate changes may well have a greater influence on improving morale” (p. 9).
Specific suggestions that Ayers (1990) has for creating a healthier workplace for police officers include: (1) examining the nature of the workplace to determine what interferes with function; (2) endorsing the mission to make life better for the first line officer; (3) exhibiting the organizational values (i.e., a more democratic leadership style) and presenting appropriate models; (4) encouraging upward communication; (5) decreasing autonomy of supervisors; (6) ensuring fairness; and (7) caring about the line officer. Additionally, Denton (1993) suggests increasing the decision latitude to include the first line officer, decreasing work load, avoiding shift work if feasible, offering flex time, offering job sharing, decreasing role ambiguity, stabilizing work schedules, and having specific guidelines detailing promotion and job security.

The Individual Law Enforcement Officer

Despite the fact that organizational changes have the most potential to reduce police officer stress (DeAngelis, 1993), it is incumbent upon the individual police officer to continue to practice the stress management strategies that may be learned from preventative stress management programs. Identifying stress management strategies that fit one’s preferences and personal style is similar to choosing a favored service weapon. That is, one has to test these stress management strategies out at the shooting range so as to develop competence with them prior to using them in the line of duty. Anecdotal data gleaned from the SIT program evaluation form (see Appendix G) suggest that the police officers involved in this study preferred the following weapons to assist them in combating stress: (1) diaphragmatic breathing; (2) progressive muscle relaxation; and (3) perspective taking. These stress management strategies may represent the first line of defense for police officers in coping with the wide array of
stressors that they face both on-the-job (operational and organizational stressors) and in life (general life stressors).
APPENDIX A

RECRUITMENT SCRIPT
Recruitment Script

Good morning/afternoon/evening/night. My name is Eric S. Rosmith and I am a doctoral candidate in Counseling Psychology at the University of North Texas (UNT) and I’m here to talk to you about taking part in an important research project being conducted as part of my dissertation through UNT.

In recent years, particularly post-9/11, police agencies and police officers throughout the nation have shown interest in programs that would assist police officers in effectively handling the variety of stressors that they may face during their career in law enforcement. However, at this point in time, very little is known about the effectiveness of these stress management programs in achieving that goal. As such, I am conducting a study in order to assess the effectiveness of a particular stress management technique called Stress Inoculation Training (SIT), in assisting you to combat stress. With your assistance, I should be able to determine whether or not this type of program is effective and this information may assist other police departments/agencies and police officers throughout the country in determining whether or not to implement and/or take part in this type of program.

With this in mind, I would like to ask those of you with no history of mental health difficulties (e.g., depression, anxiety, post-traumatic stress disorder) to volunteer for this important research study. By volunteering you will be agreeing to be randomly assigned to one of the three following treatment conditions:

1. a delayed training group – here, you will be asked to fill out a questionnaire packet (detailing a variety of potential stressors, mood states, and demographic information) at three different times (prior to any group being conducted, after the SIT program has been conducted, and after the booster sessions have been conducted);

2. a SIT program group – here, you will be asked to attend SIT training that will consist of four, ninety minute sessions taking place over the course of one month and you will also be asked to fill out a questionnaire packet (detailing a variety of potential stressors, mood states, and demographic information) at three different times (prior to any group being conducted, after the SIT program has been conducted, and after the booster sessions have been conducted);

3. a SIT program plus booster session group - here, you will be asked to attend SIT training that will consist of four, ninety minute sessions taking place over the course of one month and to participate in a 20-30 minute booster session (i.e., phone conversation) to take place approximately one month after you complete the SIT program along with being asked to fill out a questionnaire packet (detailing a variety of potential stressors, mood states, and demographic information) at three different times (prior to any group being conducted, after the SIT program has been conducted, and after the booster sessions have been conducted).

I will be conducting this study starting on ____________________ and the study end date will be on _____________________. Participation in this study is completely voluntary and...
confidential. The collection of your information will be attached to an ID number that will be assigned for purposes of the study. If you volunteer, only Eric S. Rosmith (and not anyone else, including other members of the police department) will be able to associate your name with the ID, which will only be done to connect survey data to the appropriate group condition. When the study is complete, the list that links participant names with ID numbers will destroyed.

I am very excited about this study and hope that you will seriously consider volunteering. Do you have any questions? I am handing out informed consent forms that include the information I provided today along with a few more details. If you are interested in volunteering, please take a few minutes to read the consent form carefully and feel free to ask me any questions. If you would like to volunteer, you may return the informed consent to me now or give me a call at XXX-XXX-XXXX or e-mail at XXXXX no later than ____________________ (two weeks after today’s date) and we can schedule a convenient time to complete the informed consent form together.

THANK YOU SO MUCH FOR YOUR TIME AND FOR CONSIDERING BEING A VOLUNTEER IN THIS IMPORTANT STUDY!
APPENDIX B

CONSENT FORM
Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

**Title of Study:**
Mental Toughness Training for Police Officers: The Impact of a Stress Inoculation Training Program on Police Stress

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**Student Investigator:** Eric S. Rosmith, M.S.
UNT
Department of Psychology

**Supervising Investigator:** C. Edward Watkins, Ph.D.
Faculty Advisor, Professor
UNT
Department of Psychology

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**Purpose of the Study:**
The purpose of this study is to learn more about how effective training in stress management techniques, particularly through the use of a SIT program, are in assisting police officers combat the wide variety of potential stressors that they face.

**Procedures to be Used:**
If you agree to participate in this study, you will be asked to sign this consent form and will be asked to take part in the following procedures as part of this study.

**Initial Questionnaire.** You will be asked to complete a questionnaire containing questions related to demographics, potential work and life stressors, and your current mood. The questionnaire is expected to take between 15 to 20 minutes to complete.

**Randomization.** Following the questionnaire, you will be assigned to either a delayed training group, SIT group, or SIT plus booster session group. The group assignment is made by a random process similar to that of drawing straws. You have an equal chance of being in each of the three (3) groups. Depending upon which group you are assigned, you will be asked to take part in either a delayed training group, SIT group, or SIT group plus booster session.

**Delayed Training Group.** Although members of the delayed training group will not be participating in either the SIT program or SIT program plus booster session, the designation of delayed indicated that the SIT program will be repeated for the participants in this group should they complete all facets of the proposed study and express further interest in the training.
SIT Group. Participants assigned to this group will be asked to take part in four (4) separate, ninety (90) minutes group sessions to take place over the course of one (1) month. The SIT program will be conducted by the Principal Investigator and will detail a number of stress prevention strategies.

SIT Plus Booster Session Group. Participants assigned to this group will be asked to take part in the aforementioned SIT program plus one (1) booster session approximately four (4) weeks following the conclusion of the SIT program. The booster session is to be conducted over the phone and is expected to last between 20 to 30 minutes. The booster session allows for the participant to revisit, troubleshoot, and/or fine-tune stress coping skills discussed in the SIT program.

Follow-up. At the completion of the SIT program, all participants, no matter which group they are assigned, will be asked complete the same questionnaire that was filled out at the beginning of the study. Also, subsequent to the booster sessions being conducted, all participants, no matter which group they are assigned, will be asked to complete that same questionnaire a third (3) and final time.

Foreseeable Risks:
The possible risk(s) of participating in this study include temporary psychological discomfort. For instance, when filling out the questionnaire packet, you may come across a question and/or answer choice that you find unpleasant, upsetting, or otherwise objectionable. Furthermore, participation in either the SIT Group or SIT plus booster Session Group may involve discussing unpleasant aspects of both your life and job which may cause you to experience uncomfortable feelings. Although this risk is very small, in the rare case where your uncomfortable feelings do not abate, you will be removed from the study and provided a referral to another mental health professional. At this time, there are no foreseeable physical and/or social risks involved in this study.

Benefits to the Subject or Others:
We hope to learn more about how effective training in stress management techniques, particularly through the use of a SIT program, are in assisting police officers combat the wide variety of potential stressors that they face. As such, it is our hope that this program will assist participants in more effectively coping with stress. Additionally, we hope results from this study will help to educate other police agencies and/or police officers as to the importance of stress management training.

Compensation for Participants:
None.

Procedures for Maintaining Confidentiality:
You have a right to privacy. This means that all the information about you from this study will only be shown to the people working on the study. Although results of this study may be published in a scientific book or journal, you will not be identified by name as only group results will be reported. The collection of any information will only be attached to an ID number that
will be assigned for purposes of the study. Only Eric S. Rosmith (and not any other member of the police department) will be able to associate names with ID numbers in order to connect survey data to intervention data. I understand that when the study is complete, Eric S. Rosmith will destroy the list that links participant name with ID numbers. I understand that my responses will never be revealed in a way that can personally identify me, nor will any information about me personally be provided to the police department, EXCEPT if I make a direct threat or express an intention to harm myself or someone else.

Confidentiality will be maintained by keeping questionnaires in a locked filing cabinet in the UNT Psychology Department. The key/code that matches ID numbers to packets will be kept by the principal investigator in a separate location.

Procedures for Protecting Confidentiality When Conducting Booster Session Phone Interviews. When a participant is called for a booster session and the phone is answered, the interviewer will give his name and institutional affiliation (UNT) and ask to speak to the research participant. If the recipient of the call is not the research participant, the interviewer will ask for a better time to reach the participant. If the recipient asks the purpose of the call, the interviewer will explain that “this is something I can’t get into with you, but (name of the participant) is expecting my call.” If the call recipient asks why the interviewer can’t get into the purpose of the call, the interviewer will explain that he cannot disclose the purpose of the call for privacy reasons. When the call is answered by voicemail, the interviewer will leave a message stating his name and institutional affiliation (UNT) and then leave a number for the participant to call him back.

When conducting the booster sessions, the interviewer will be alone and in a locked office.

Review for the Protection of Participants:
This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at 940-565-3940 regarding the rights of research subjects.

Voluntary Participation and Withdrawal:
Participation in this study is voluntary. You may decide not to participate in this study or you may withdraw from this study at any time without penalty.

Research Subject’s Rights:
If you have any questions about the study, you may contact:

Eric S. Rosmith, M.S. or Dr. Ed Watkins
Department of Psychology Department of Psychology
UNT UNT
XXX-XXX-XXXX XXX-XXX-XXXX

Your signature below indicates that you have read and have had read to you all of the above and that you confirm all of the following:
• Eric S. Rosmith has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
• You understand that you do not have to participate in this study and your refusal to participate or your decision to withdraw from the study will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
• You understand why the study is being conducted and how it will be performed.
• You understand your rights as a research participant and you voluntarily consent to participate.
• You have been told that you will receive a copy of this form.

Printed Name of Participant  Date

Signature of Participant  Date

_for the Investigator:_ I certify that I have reviewed the contents of this from with the subject signing above. I have explained the known benefits and risks of the research. It is my opinion that the subject understood the explanation.

Signature of Principal Investigator  Date
APPENDIX C

QUESTIONNAIRE PACKET (DEMOGRAPHICS)
QUESTIONNAIRE PACKET

INSTRUCTIONS

In this packet are a number of questions addressing demographics as well as general and specific issues and/or factors that have been identified within the law enforcement community as potential stressors. Read each statement carefully and select the appropriate choice that corresponds with your answer. Please answer every item and be open and honest with your responses so that I can develop a true picture of your feelings about the various issues addressed throughout this packet.

Your responses to all questions WILL BE KEPT CONFIDENTIAL and restricted to Eric S. Rosmith for analysis and review. These responses will help me to identify how beneficial stress management training is in the field of law enforcement. The results will be provided to your agency and published only in aggregate form, so no individuals can be identified. When completed, please seal the survey inside the provided envelop and contact Eric S. Rosmith by phone at XXX-XXX-XXXX or e-mail at XXXXX to arrange for pick up.

Section I: Demographics
The purpose of this section is for me to determine the impact of various demographic characteristics on any of the research questions in the study. These will be kept in strict confidence and none of this data will be used to identify you personally. Please indicate the appropriate response to each of the following:

1. Gender:  
   ____ Male (1)  
   ____ Female (2)

2. Age:  

3. Race/Ethnicity:  
   ____ Caucasian (1)  
   ____ African American (2)  
   ____ Hispanic/Latino (3)  
   ____ Asian American (4)  
   ____ Pacific Islander (5)  
   ____ Other (6)

4. Highest level of education completed:  
   ____ High School/GED (1)  
   ____ Some College (2)  
   ____ Associate’s Degree (3)  
   ____ Bachelor’s Degree (4)  
   ____ Master’s Degree (5)  
   ____ Doctoral Degree (6)  
   ____ Professional Degree (7)

5. Total number of years as a sworn police office in your current department:  ____
6. Total number of years (no matter the department) as a sworn police officer: _____

7. Current rank:
   ____ Officer Trainee (1)
   ____ Officer (2)
   ____ Detective (3)
   ____ Sergeant (4)
   ____ Lieutenant or above (5)

8. Special Assignments: ______________________________________________________

9. Did/do you serve in the military: ____ Yes (1) ____ No (2)

10. Current marital status:
    ____ Married (1)
    ____ Separated (2)
    ____ Divorced (3)
    ____ Widowed (4)
    ____ Never Married (5)

11. Total number of times being married: _____

12. Were you married prior to joining the force: ____ Yes, to current spouse (1)
    ____ Yes, to a former spouse (2)
    ____ No (3)

13. Number of children currently living in your home: ____ children ____ N/A

If currently married or with a significant other, please answer the following questions:

14. Does your spouse/significant other have a job: ____ Yes (1) ____ No (2)

15. If yes, is he/she a police officer: ____ Yes (1) ____ No (2)

16. If yes, does he/she work in the same department: ____ Yes (1) ____ No (2)
17. What is the highest level of education completed by your spouse/significant other:

- High School/GED (1)
- Some College (2)
- Associate’s Degree (3)
- Bachelor’s Degree (4)
- Master’s Degree (5)
- Doctoral Degree (6)
- Professional Degree (7)

THIS COMPLETES THE SURVEY.
THANK YOU VERY MUCH FOR PARTICIPATING!
APPENDIX D

OUTLINE OF SIT PROGRAM
Stress Inoculation Training (SIT) Program Outline

I. Session One (90 minutes)
   a. Introduction to SIT Program
      i. Self-Introductions
      ii. Overview and Rationale of SIT Program
      iii. Group and Facilitator Expectations
   b. Overview of Stress
      i. Potential Stressors
         1. Occupational/Operational
            a. Courts/Judicial System
            b. Media Coverage/Scrutiny
            c. Community Relations
            d. Using/Witnessing Deadly Force
            e. Encountering Victims of Crime/Brutality and Fatalities
            f. Encountering Violent and/or Unpredictable Situations
         2. Organizational
            a. Shift Work
            b. Inadequate Supervision
            c. Poor Supervisory Relationships
            d. Lack of Input into Policy and/or Decision Making
            e. Lack of Recognition
            f. Insufficient Administrative Support
            g. Excessive Paperwork
            h. Insufficient Pay
            i. Poor Resources
            j. Role Conflict/Ambiguity
         3. Intra/Interpersonal
            a. Self-Confidence/Self-Esteem
            b. Optimism and Pessimism
            c. Hardiness
            d. Cynicism
            e. Authoritarianism
            f. Type A Personality
         4. External to the Police Role/Police Agency
            a. Death of a Family Member/Friend
            b. Marriage
            c. Divorce
            d. Pregnancy
            e. Miscarriage
            f. Birth of a Child
            g. Child Leaving the Home
            h. Loss of Job
            i. Demotion
            j. Retirement
            k. Bankruptcy
l. Lawsuits
m. Moving
n. Serious Illness/Injury
o. Minor Money Problems
p. Car Problems/Repairs
q. Traffic Jams
r. Home Repairs
s. Housework/Cleaning
t. Errands
u. Rude People
v. Loud/Fussy Children
w. Bad Weather
x. Minor Illness
y. Minor Squabbles with a Spouse/Family Member/Friend

ii. Stress-Related Symptoms
1. Physiological
   a. Coronary Heart Disease
   b. Cardiovascular Disease
   c. Gastrointestinal Disorders
d. Diabetes
e. Circulatory Disorders
f. Cancer
g. Mortality

2. Psychological
   a. Anxiety Disorders
   b. Depression
c. PTSD
d. Job Dissatisfaction
e. Burnout
f. Apathy
g. Nervousness
h. Restlessness
i. Anger
j. Suspiciousness
k. Isolation
l. Boredom
m. Alienation
n. Emotional Exhaustion
o. Emotional Distancing

3. Behavioral
   a. Drug/Alcohol Use and/or Abuse
   b. Hypervigilance
c. Hyperaggressiveness
d. Absenteeism
e. Early Retirement
f. Increased Rates of Marital Discord
i. Domestic Violence
ii. Infidelity
iii. Divorce

G. Suicide

iii. Group Discussion
   1. Generate examples of stress-inducing situations.

c. Transactional Model of Stress and Coping
d. Goals and/or Expectations of Group Members for their Experience

II. Session Two (90 minutes)
   a. Review of Previous Session and Questions
   b. Overview of Coping Skills
      i. Instrumental
         1. Anxiety Management
         2. Cognitive Restructuring
         3. Communication Skills
         4. Assertiveness Training
         5. Problem Solving Skills
         6. Anger Control
         7. Cue-Controlled Relaxation
      ii. Palliative
         1. Perspective Taking
         2. Selective Attention-Diversion Procedures
         3. Acceptance Skills
      c. Relaxation Training
         i. Diaphragmatic Breathing
         ii. Progressive Muscle Relaxation
         iii. Cue-Controlled Relaxation
d. Guided Imagery to Practice Relaxation Techniques
e. Process Reactions to Relaxation Techniques
f. Encourage Home Practice of Relaxation Techniques

III. Session Three (90 minutes)
   a. Review of Previous Session and Questions
   b. Progressive Muscle Relaxation
c. Cognitive Restructuring
d. Group Discussion of Cognitive Restructuring
e. Guided Imagery to Practice Cognitive Restructuring
f. Process Reaction to Guided Imagery
g. Encourage Home Practice of Relaxation Techniques and Cognitive Restructuring

IV. Session Four (90 minutes)
   a. Review of all Previous Sessions
   b. Role-Play
c. Group Members Receive Feedback Regarding Role-Play
d. Relapse Prevention
e. Process Reactions to SIT Program
f. SIT Program Evaluation Form
g. Post-Test
APPENDIX E

SIT PROGRAM EVALUATION FORM
Stress Inoculation Training (SIT) Program
Evaluation Form

The purpose of this evaluation form is to allow you the opportunity to give me your thoughts and/or opinions regarding the SIT program. I’m interested in knowing what you valued the most about the program so I can continue to do those things. It’s also important for me to know what portion(s) were not as valuable to you as well as what improvements and/or changes you recommend. I truly appreciate your time and effort in helping to make this program the best it can be. In the space provided, please rate the first ten items according to the following scale:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. The content of this program is relevant to me.
2. I felt comfortable to say what I really thought or felt in each session. (If not comfortable, please use the back of this sheet to explain what might help you to feel more comfortable in the future).
3. When I return to my normal routine(s), I will continue to think about what has been discussed throughout this program.
4. I am currently applying ideas from this seminar.
5. I believe that I will be able to use ideas from this program in the future.
6. I believe the other group members are interested in improving themselves.
7. I have learned a lot from this program.
8. If there was a follow-up program offered, I would take it.
9. I would recommend this program to other police officers/departments.
10. Overall, I’m glad that I took part in this program.

11. What did you LIKE MOST about the program?

12. What did you LIKE LEAST about the program?

13. How would you IMPROVE the program?

14. What is the MOST IMPORTANT LESSON you have learned from the program?

15. ON THE BACK OF THE PAGE, please give some examples of times when you have applied some ideas from this program:

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APPENDIX F

BOOSTER SESSION PROTOCOL
Hi, my name is Eric S. Rosmith and I’m conducting the Mental Toughness/SIT program that you’ve been participating in through the Police Department. I’d like to thank you for your continued participation in this program, it is greatly appreciated! As a reminder, this phone call, along with all other information collected in association with this study, is strictly confidential.

Now, I know that you’ve answered a ton of questions already on those questionnaires, but would you mind spending another 20 to 30 minutes or so talking together? Great!

The reason that I’d like to have this additional discussion is to provide you with: (1) a review of the SIT program; (2) information regarding your self-reported levels of stress and mood states; (3) an opportunity to voice your opinion(s) regarding your levels of stress and mood states; and, (4) an opportunity to plan how you’d choose to change your approach to combating stress. Do you have any questions at this time?

First, let’s review the SIT program (here, an emphasis will be placed upon reviewing the stress-inducing situations identified by SIT program group members and the skills from which to cope with these stress-inducing situations). Do you have any specific questions regarding these particular stress-inducing situations and/or coping skills? Do you have anything to add at this time?

When you filled out the questionnaire packet, one set of questions detailed organizational, or job context, stressors that you might face. The overall score on this set of questions allows us to see how stressful you feel these types of things have been for you over the past six (6) months, where lower scores are indicative of less stress and higher scores indicate more stress. Your score was ____. How does this information strike you?

Another set of questions detailed operational, or job content, stressors that you might face. The overall score on this set of questions allows us to see how stressful you feel these types of things have been for you over the past six (6) months, where lower scores are indicative of less stress and higher scores indicate more stress. Your score was ____. How does this information strike you? What might this information mean for you in regard to coping with stress?

A third set of questions detailed the degree to which you perceive a variety of general life situations as being stressful. The overall score on this set of questions allows us to see how stressful you feel these types of things have been for you over the past month, where lower scores are indicative of less stress and higher scores indicate more stress. Your score was ____. How does this information strike you? What might this information mean for you in regard to coping with stress?

A final set of questions detailed mood state over the past week. The overall score on this set of questions allows us to see how you rated your mood during the past week, where lower scores are indicative of more stable mood states and higher scores indicate more fluctuation between
mood states. Your score was _____. How does this information strike you? What might this information mean for you in regard to coping with stress?

Taken in combination, what might this information mean to you?

I’m curious, on a scale of 1 to 10, with 1 being not important at all and 10 being extremely important, how important is it for you to use effective coping skills to combat stress? If a high number is given, reflect that it is important to the participant and then ask what things make it very important for them to make a change. If a low number is given, reflect that answer and ask why they did not choose a lower number so as to focus upon the motivation they do have rather than what they lack (e.g., You chose a 3. Why not a 1? So, one reason it’s important is…). If a 1 (i.e., not important at all) is given, reflect that answer and ask what it would take to raise the level of importance and ask permission to review information about risks associated with stress.

Now, I’m curious, again on a scale of 1 to 10, with 1 being not confident at all and 10 being extremely confident, how confident are you that you can use effective coping skills to combat stress? (If the participant has already made a change in how they use effective coping skills to combat stress, then ask: on a scale of 1 to 10, with 1 being not confident at all and 10 being extremely confident, how confident are you that you can maintain your ability to use effective coping skills to combat stress?) If a high number is given, reflect that the participant is confident and ask for them to further elaborate on their reasons for being so confident. If a low number is given, reflect that answer and ask why they did not choose a lower number so as to focus upon the confidence they do have rather than what they lack (e.g., You chose a 3. Why not a 1? So, on reason you might be confident is…). If a 1 (i.e., not confident at all) is given, reflect that answer and ask what it would take to raise the level of confidence and ask what has been helpful to them in making changes in the past.

I want to emphasize the fact that whatever you do with this information is your choice. So, I’m wondering where, after having heard this information, you are in terms of your ability to effectively combat stress? What, if any, changes might you make in how you currently combat stress? How might you accomplish these things? What might stop you from accomplishing these things?

(Summarize the session with an emphasis on strengths and upon what agreement might have been reached regarding how this individual may go about effectively combating stress).

That’s the end of this booster session. Again, thanks for your continued participation. Remember, you will be contacted regarding filling out the questionnaire packet, ONE MORE TIME in approximately ONE WEEK. Do you have any questions and/or concerns at this point in time?
APPENDIX G

STRESS INOCULATION TRAINING (SIT) PROGRAM

EVALUATION FORM RESPONSES
Question 11 – What did you LIKE MOST about the program?

Ideas for dealing with stress.

Just the awareness.

Breathing and muscle relaxation techniques.

The best part is the realization that this program is available and being researched. It is beneficial to be reminded of stress coping techniques.

Insight if problems arise.

Overall, look at what ways I could improve my situation.

You seemed knowledgeable and had clear presentation.

Got a chance to see that I’m not the only person who sees things how I do. Also, helpful to hear other’s perspectives of the same things.

The way that it was tailored to law enforcement.

It was a great time to learn how to deal with problems.

I believe I was aware of some of the stress relievers, but I didn’t practice them. For me, it was just a reminder.

Question 12 – What did you LIKE LEAST about the program?

I had no issues with the program other than changing my routine to come in early.

Application practice.

Technical terms.

Personally, practicing techniques in a small group setting.

Videos are fun to watch in class, might be fun to throw in some.

Question 13 – How would you IMPROVE the program?

I don’t know enough about to know how to improve it.

Longer, more of it!
If the setting was larger and in a location of neutral setting, participants may feel more comfortable.

Identify people who are high risk mentally or who are having problems.

Expand on hypervigilance and the impact it has on the body and life expectancy.

Question 14 – What is the MOST IMPORTANT LESSON you have learned from the program?

Controlling stress.

To try to step back and relax/regroup in a stressful situation.

To identify stressors actively.

I don’t have to carry stress and continue carrying more daily.

Relaxation.

Breathing works. Cognitive restructuring helps.

Perception is key.

It helped me understand myself better, why I react the way I do and possibly some ways to better myself.

How to control or diffuse the stressor or anger.

Learning to speak instead of hiding feelings.

When I noticed I was stressed or irritated, I would apply the breathing exercises. I would try not to mind read other people, get emotional, and tried to think logically.

Question 15 – ON THE BACK OF THE PAGE, please give some examples of times when you have applied some ideas from this program:

Multiple times during each shift I used the breathing technique. When I do it, I can feel tense areas and focus on relaxing them.

There has been a few instances where I was able to stop myself before I got too upset or stressed over a situation and was able to step back and look at it differently, which relaxed me.

Took deep breathes to regroup when deciding with co-workers/supervisors who were “pawning their work on other officers,” not necessarily me.
When dealing with disciplining my five year old daughter.

At the end of my long work week.

With family.

Just used the breathing techniques during an arrest with a very irritating suspect!

Things not going the way I think they should.

People’s responses to law enforcement.

Daily activities.

Family disagreements.

Miscellaneous Comments:

I do not do well in a generalized setting where several people are in attendance. My fear of looking fragile in front of my peers is an overwhelming burden.

The past week was hectic. I went off to teach in ____. These were 16 hour work days and I stayed in the campus dorms. The dorms were gross. There was one other instructor who was not prepared and rarely on time. I was exhausted with the schedule, overtime, and just the heat. Every day there seemed to be surprises and unexpected things that I was tested with. At night, I had difficulty sleeping, thinking about the next day. Or, I would be frustrated by the instructor who did not seem to care. At night, I practiced the breathing and muscle relaxation techniques to help me sleep. I also did this prior to going on stage at graduation for a speech I was asked to give. I was extremely nervous but I tried not to focus on negative things and just be confident and used mental imagery. I tried not to judge the other instructor or be negative. I tried to have a positive outlook and communicate with him what I needed. The issues were really obvious to me. None of the students were even aware and they though the academy was amazing. The instructor was helpful if given specific tasks. We are just different people. All in all, it was a success. I did it without yelling at anyone, or getting too stressed out. I just took it one thing at a time.
REFERENCES


Nietzsche, F, (2012). Beyond good and evil. Lark Publishing LLC.


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