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Stress Inoculation Training in ROTC Cadets

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Stress Inoculation Training in ROTC Cadets

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STRESS INOCULATION TRAINING IN ROTC CADETS

By

Ashley Nicole Doss, M. A.

Presented to the Faculty of the Graduate School of

Stephen F. Austin State University

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STRESS INOCULATION TRAINING IN ROTC CADETS

By

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Abstract

Approximately 1,100 ROTC facilities are housed at university campuses across the

United States (Today's Military, 2017; Guide to Understanding ROTC Programs, 2017).

ROTC provides individuals with the ability to dedicate time and service to leadership

training and complete studies in a specified degree field. Poor stress management can

significantly impair academic performance and persistence. This study was designed to

answer the following questions: 1) can Stress Inoculation Training predict academic

performance above and beyond personality and psychological variables in freshmen and

sophomores enrolled in a military science program?", and 2) "Can Stress Inoculation

Training predict academic retention above and beyond personality and psychological

variables in freshmen and sophomores enrolled in a military science program?" Data was

collected from 38 individuals enrolled in a military science program on a university

campus. Examining SIT's impact on cadets in a military science program contributes to

a new and growing pathway to examine retention rates, as those most likely to complete

SIT were more likely to continue enrollment within the military science program and

reported higher levels of academic performance (Kelly, Matthews, & Bartone, 2014;

Robson & Manacapilli, 2014).

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Chapter I

Introduction

Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) introduced active duty and reserve forces to a new set of battle procedures and policies not previously experienced by military personnel. Primary missions of wars from World War I, World War II, and Vietnam held an exclusive focus on reducing the population of the opposing force as quickly and as drastically possible (West, 2014). The Global War on Terrorism (GWoT), OIF, and OEF saw changes in how military personnel approached dangerous situations (Curry, 2013; West, 2014). Two primary changes have been identified in the recent wars: the role change of the military, from a "boots on the ground" warfighter to a more strategic peacekeeper of international concerns, and the expanded use of private contractors in paramilitary operations (Stowers & Thompson, 2011; West, 2014). As strategic peacekeepers, the focus shifted to providing security to the population within war-torn countries (namely, Iraq and Afghanistan), development projects, supporting the government, and instituting the Western rule of law (West, 2014).

Exposure to longer deployments, increased stress levels, and the required emotional/psychological adjustment associated with integration into general society upon return, have re-introduced problems and occurrences within the military not identified

since the Vietnam War (Stowers & Thompson, 2011). More than three million service members are currently serving active duty within one of the four branches of the United States military. Approximately 83.1% of those within the active duty branch are enlisted personnel, with the remaining 16.9% serving in the position of officer (Office of the Deputy Assistant Secretary of Defense, 2014). Additionally, more than 800,000 individuals serve within the Reserve branches of the military (Office of the Deputy Assistant Secretary of Defense, 2014). Although eligible for deployments and war-service, reserve military members often work primarily within the civilian workforce, spending one weekend a month with additional training in the summer as a military service member (Veterans Employment Toolkit Handout, 2016).

Officers join the military through the military academy, Officer Candidate School (OCS), or Reserve Officers' Training Corps (ROTC; Today's Military, 2017). Officers starting a military career through ROTC usually join through an enrolled university (40%; U. S. Army Cadet Command, 2016). Approximately 1,100 ROTC facilities are housed at university campuses across the United States (Today's Military, 2017; Guide to Understanding ROTC Programs, 2017). ROTC provides individuals with the ability to dedicate time and service to leadership training and complete studies in a specified degree field. After completion of the ROTC program and a Bachelor's degree, an individual dedicates a minimum of two years as an officer within the branch of service he or she served in as an ROTC cadet (Today's Military, 2017; Guide to Understanding ROTC Programs, 2017). Cadets undergo training within the areas of leadership,

resilience, land navigation, physical fitness, and more. An important component of

ROTC programs is the development of leadership abilities for military personnel who

become active duty within the fleet, as job duties of officers include effective

management of personnel within the military (Today's Military, 2017; Guide to

Understanding ROTC Programs, 2017).

It is often purported that individuals who enlist or dedicate years of service within

the military possess particular personality traits designed to successfully navigate military

life (Campbell, Castaneda, & Pulos, 2010). Studies in the past 30 years indicate a few

personality variables may predict success, but no definitive pattern has been identified

(Campbell et al., 2010; Salimi, Karaminia, & Esmaeili, 2011; Stowers & Thompson,

2011; Thunholm, 2009). Personality variables include grit and hardiness, resilience, low

reported levels of neuroticism, and low reported levels of openness (based on the Big

Five personality traits; Kelly et al., 2014; Salimi et al., 2011; Stowers & Thompson,

2011). Although no personality profile has proven to be indicative of success within the

military, multiple predictors examining external factors are presently employed, aimed at

predicting the rates of retention and overall performance or success of achieving rank

within the military branch the ROTC cadet joins.

Research on cadets within ROTC programs, Officer Candidate School (OCS), and

the service academy has indicated key external factors associated with individuals'

successful completion of training: academic performance, physical fitness test scores,

SAT/ACT scores, and leadership ability (Advanced Management Program, 2004;

Mattock, Asch, Hosek, Whaley, & Panis, 2014). Identification of these factors has provided military leaders and agencies assisting the progression of military advancement (i.e., psychologists) with the development of various programs that provide support in areas, which may be missing within an individual's life (Mattock et al., 2014). For example, resilience training has been designed and employed with all service members regardless of what their job duties are and which branch they are serving under, as it has proven effective in reducing stress-related trauma.

A focused concern within the military population, ROTC (Reserve Officers' Training Corps) programs often have a low retention rate, specifically within the first two years of joining the program. Approximately 40% of officers serving on active duty status come from an ROTC program (Today's Military, 2017; Guide to Understanding ROTC Programs, 2017). Retention rates differ on each campus that houses an ROTC facility. Continued low retention rates may often cost a significant amount of time and money for the military, as time is invested in candidates who do not complete the program nor enlist for military service. Strategies implemented to increase retention rates have included resiliency programs and stricter admissions into predicting success rates within the ROTC program (Morgan & Bibb, 2011).

Resiliency is defined as the ability to overcome and move forward with events that have occurred within an individual's life, and has been identified as a key factor to overcoming challenges for military service members and their families (Bates et al.,

2010; Eskreis-Winkler, Shulman, Beal, & Duchworth, 2014; Kavanagh, 2005; Maddi, 2007; Taylor et al., 2009).

To date, multiple resilience training programs exist. These programs are either designed to target an increase in the ability to recover from an experience within the military family, or assist the active duty service member in overcoming a traumatic experience within his or her time in service to the military (Bates et al., 2010; Eskreis-Winkler et al., 2014; Kavanagh, 2005; Maddi, 2007; Taylor et al., 2009). Resiliency training within the military is designed to promote successful progression and advancement as an individual, with the intention of providing a buffer against potential traumatic experiences military service members may face through wartime and peacetime efforts. Overall, approximately 21% of military service members who experience a combat deployment return with a diagnosis of posttraumatic stress disorder (PTSD) and other co-morbid diagnoses of anxiety, depression, and alcohol or substance abuse (Ginzburg, Ein-Dor, & Solomon, 2010; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Marshall et al., 2001; Scott, 2012; Stanley, Schaldach, Kiyonaga, & Jha, 2011; Steenkamp & Liz, 2013). Researchers and clinicians have focused on decreasing the rate of psychopathology in military service members through identification and implementation of effective strategies aimed at reducing the occurrence of these diagnoses.

Stress Management

A potential strategy focused on assisting individuals with stress and coping that has shown promising results in many populations, but is still emerging on the military population, is Stress Inoculation Training (SIT; Meichenbaum, 2007). Boyd, Lewin, and Sager (2009) examined how the transactional model of stress and coping may affect job stress in the private industry. Results indicated an increased understanding and employment of coping strategies assisted with emotion-focused coping skills, greater self-efficacy, and decreased job anxiety. Bray et al. (2001) identified comprehensive studies examining active duty service members and service academy students have examined effects of work and non-work stress and its impact on symptoms of depression, substance abuse, and coping styles. Results support the theory that the approach to stress and coping should focus on providing therapeutic care with work-related stressors and teaching positive coping strategies. Research on SIT within the population of the military has been limited primarily to specific branches of specialized forces (i.e., Navy SEALs, Army Special Forces, etc.), or to those diagnosed with Post-Traumatic Stress Disorder (PTSD; Kavanagh, 2005; Robson & Manacapilli, 2014). Research in other populations indicates training individuals in coping strategies to handle emotion-focused and problem-focused issues is effective and comprehensive (Boyd et al., 2009; Bray et al., 2001; Britt & Bleise, 2003; Hobfoll, 2001; Kavanagh, 2005; Meichenbaum, 2007; Robson & Manacapilli, 2014; Taylor et al., 2009). The specific strategy of employing

SIT for military service members is limited in use and generally employed after symptoms for PTSD or other psychopathological concerns arise (Meichenbaum, 2007).

Currently, minimal studies examine the impact SIT would have on performance, retention, and long-term psychological health on military service members. Research is inconclusive on the overall impact SIT may have on the military population (Boyd et al., 2009; Bray et al., 2001; Britt & Bleise, 2003; Hobfoll, 2001; Kavanagh, 2005; Meichenbaum, 2007; Robson & Manacapilli, 2014; Taylor et al., 2009). Aimed at identifying the initial variables of its effect on performance and retention rates within ROTC cadets, this study will examine personality, psychological/emotional status, and SIT's impact on retention rates and performance for freshmen and sophomore cadets within an ROTC unit on a university campus. Examination of personality will identify 'person' variables that may predict academic success and retention of students enrolled in the ROTC program. Currently, little to no studies examine the variables significantly predicting retention within an ROTC program. Further, this study will examine the contribution of SIT to ROTC students' academic success and persistence in the early years of enrollment and contribute to the development of a comprehensive profile of ROTC applicants who successfully complete the required initial adjustment to ROTC training and socialization into military life. Data collected from this study may aid individuals considering careers in the military, academic and/or career advisors, administrators of ROTC programs in the implementation of empirically supported curriculum and practices to enhance academic persistence, and military personnel in

program development addressing healthy coping strategies in the face of trauma. The following research questions will be investigated:

R1. Can Stress Inoculation Training predict academic performance above and beyond personality variables (MBTI) and psychological emotional status (MCMI-IV) in freshmen and sophomore cadets enrolled in a military science program?

R2. Can Stress Inoculation Training predict academic retention above and beyond personality variables (MBTI) and psychological emotional status (MCMI-IV) in freshmen and sophomore cadets enrolled in a military science program?

Definitions of Terms

Active Duty. Full-time service in the United States Armed Forces (Veterans Employment Toolkit Handout, 2016).

Reserve (military reserve). Individuals identified as military personnel but are not full-time active duty status. These individuals are deployed at any time and for filling gaps in positions when active duty service members are unavailable. Participation of training drills one weekend a month and two weeks a year is required (Veterans Employment Toolkit Handout, 2016).

Flag rank. Highest-ranking officers within the military, including General, Lieutenant General, Major General, and Brigadier General (Kapp, 2016).

Enlisted member. An individual who has joined the military with a minimum of a high school diploma (Veterans Employment Toolkit Handout, 2012).

Commissioned Officer. Defined as military personnel in the rank of officer by commission with a bachelor's degree and the focus of providing management and leadership (Commissioned Officer, 2017; Veterans Employment Toolkit Handout, 2012).

Deployment. Merriam-Webster (2015) defines this as organization and sending of military troops for a particular purpose. Most recent deployments (within the last 15 years) have included sending troops to Iraq and Afghanistan for Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and the Global War on Terrorism (GWT).

Combat stress. May often be referred to as operational stress or combat and operational reaction, it is a response to the mental and physical efforts exerted by military service members who have faced dangerous and/or difficult situations, and may occur during peace and wartime (Real Warriors Campaign, 2015).

Military academy. Colleges providing specific training for future commissioned officers, with entry into five possible service academies: United States Military Academy, United States Naval Academy, United States Coast Guard Academy, United States Merchant Marine Academy, and United States Air Force Academy (USA.gov, 2017).

Officer Candidate School. Individuals who graduate from a traditional four-year university or college, are currently enlisted members transitioning to officer positions, or are direct commissioned officers with a specialized degree or set of skills and are trained

to understand military culture and law. Rank upon graduation includes second lieutenant

(Today's Military, 2017).

   ROTC. Reserve Officers' Training Corps is a college elective offered to graduate

and undergraduate students designed to train leadership skills for success in all fields

(Army ROTC, 2017). ROTC is offered for all branches of military.

Chapter II

Literature Review

Military Demographics

     Active duty. The United States military consists of 3.5 million members, serving as Active Duty status, Coast Guard members, Ready Reserve, Coast Guard reserve, Retired Reserve, and Standby Reserve. The largest branch in the active duty force is the Army, with approximately 504,330 members, followed by the Navy (321,599), the Air Force (312,453), and the Marine Corps (187,891). Approximately 1,325,273 active duty members have been identified (Office of the Deputy Assistant Secretary of Defense, 2014). Ratio of enlisted members to officer are as follows: every 4.6 to one for the overall makeup of the active duty force. In the Air Force, there are four enlisted personnel for one officer, the Army has 4.2 enlisted for every one officer, the Navy has 4.9 enlisted for every one officer, and the Marine Corps has eight enlisted personnel for every one officer (Office of the Deputy Assistant Secretary of Defense, 2014). Fewer than seven percent of enlisted members have a Bachelor's degree, and approximately 92.1% have a high school diploma and/or some college experience. A majority of Officers in the Active Duty force (82.8%) have a Bachelor's degree or higher. Duty assignments range all over the world, from being stationed stateside (within the region of the United States of America) to worldwide. Approximately 87.1% of Active Duty are

assigned to duty stations within the United States, with 6.7% in East Asia, and 5.1% in Europe. Roughly ten states have the highest number of Active Duty members, starting with California (155,051), Virginia (122,884), Texas (117,623), North Carolina (100,867), Georgia (69,322), Florida (60,095), Washington (57,926), Hawaii (49,519), Colorado (37,713), and South Carolina (36,670; Office of the Deputy Assistant Secretary of Defense, 2014).

The degree of representation of diversity associated with gender, race, and ethnicity within the population has progressively changed in the last 200 years, with a steady increase in the number of ethnic minority individuals and females joining the ranks. Overall, 200,692 (15.1%) of women are in the active duty force. This is a steady increase from 2000, when 14.1% identified as female (Office of the Deputy Assistant Secretary of Defense, 2014). Approximately one-third (31.2% or 412,070) of active duty members have identified themselves as having ethnic minority status (i.e., African American, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multi-racial, or Other/Unknown). Further examination reveals that 32.9% of enlisted members have identified themselves as an ethnic minority and 22.5% of officers have identified as an ethnic minority. This number has increased from a 1995 report that identified 28.2% (enlisted) and 10.5% (officers) and is higher than the overall United States population, where 77.1% is identified as White only (officers; Office of the Deputy Assistant Secretary of Defense, 2014; United States Census Bureau, 2015). As Hispanic heritage is not considered a separate analysis by determination of the Office of

Management and Budget directives, approximately 12% of the active duty force have identified themselves of Hispanic ethnicity (Office of the Deputy Assistant Secretary of Defense, 2014).

Age ranges within the military are an important aspect of demographic information. Age restrictions include the inability to enlist after the age of 39, with a minimum age of 17 years (provided parent permission; Join the Military, 2017). The average age of an active duty member is 28.6 years, with active duty officers averaging at 34.8 years and enlisted personnel averaging around 27.3 years of age. The age categories for enlisted are as follows: 25 years or younger (49.6%), 26 to 30 years (22.1%), 31 to 35 years (14%), 36 to 40 years (8.8%), and those older than 41 years (5.6%). The age categories for officers are as follows: 41 years of age or older (25.7%), 26 to 30 years (22.5%), 31 to 35 years (20.7%), 36 to 40 years (17.8%), and those 25 years of age or younger (13.4%; Office of the Deputy Assistant Secretary of Defense, 2014).

Reserve forces. The Reserve components of the U. S. Military comprise approximately 831,999 members, divided into the Selected Reserve National Guard (354,072), the Army Reserve (195,438), the Air National Guard (106,380), the Air Force Reserve (69,784), the Navy Reserve (49,254), the Marine Corps Reserve (39,450), and the Coast Guard Reserve (7,614; Office of the Deputy Assistant Secretary of Defense, 2014). The ratio of ranks between enlisted and officer is similar between active duty and Reserve, with 84.4% of enlisted and 15.6% as officers. Each Reserve branch ratio is as follows: Navy Reserve have 3.1 enlisted for every officer, Air Force Reserve have 4.1

enlisted for every one officer, the Army Reserve have 4.5 enlisted for every one officer, the Coast Guard have 5.2 enlisted for every one officer, the Air National Guard have 6.1 enlisted for every one officer, the Army National Guard have 6.8 enlisted for every one officer, and the Marine Corps Reserve have 8.4 enlisted for every one officer. Approximately 156,180 (18.8%) of females comprise the Selected Reserve force, which has also increased from 2000 (17%). The ethnic minority makeup within the Selected Reserve force is as follows: 25.6% (212,985) overall identify themselves as an ethnic minority. Further, 186,607 enlisted personnel identify as ethnic minority with 26,378 officer personnel. Those who have identified themselves as Hispanic origin and ethnicity comprise approximately 10.6% of the overall Selected Reserve Force (Office of the Deputy Assistant Secretary of Defense, 2014).

A majority of the Selected Reserve (99.1%) live within the United States and its territories. The average age for enlisted personnel in the Reserves are 30.3 years and for officers it is 39.3 years of age. Age demographics for enlisted personnel in the Selected Reserve are as follows: 39.6% are 25 years or younger, 20% are between 26 and 30 years of age, 17.1% are 41 years or older, 14.3% are 31 to 35 years, and 9% are 36 to 40 years of age. Age demographics for officer personnel are as follows: 45.7% are 41 years or older, 18.3% are between the ages of 31 to 35, 17.4% are between the ages of 36 to 40 years, 12.8% are between the ages of 26 to 30 years, and 5.8% are 25 years or younger. A majority of enlisted Selected Reserve (83.3%) have a high school diploma and/or some college experience and 10.1% have a Bachelor's degree or higher. The majority of

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officers in the Selected Reserve (86.5%) have a Bachelor's degree or higher (Office of the Deputy Assistant Secretary of Defense, 2014).

ROTC Programs

The Reserve Officers' Training Corps (ROTC) was developed in 1916, enacted by President Wilson signing the National Defense Act of 1916 (U. S. Army Cadet Command, 2016; Today's Military, 2017). The National Defense Act of 1916 was created to establish a permanent National Guard and reserve military force designed to unify militias that had developed across the United States (This Day in History, 2017). This literature review will examine multiple studies conducted throughout each service branch of military, with a primary focus on the Army, as the ROTC program in the study is Army-based. Approximately 1,100 Army ROTC programs are funded at universities and colleges throughout the United States and its territories, focused on developing young adults through leadership programs, military skills, and career training (Today's Military, 2017; Guide to Understanding ROTC Programs, 2017). In addition to normal academic studies, students who complete the ROTC program within a college or university setting earn a Bachelor's degree and are awarded officer status within the United States Army (Today's Military, 2017). Approximately 70% of those who graduate from an ROTC program join the military as second lieutenants, serving in the Army as an Active Duty officer, Army Reserve, or Army National Guard. The remaining 30% are likely to find career-service positions within the private sector. At present, more than 40% of officers holding active duty status within the Army were commissioned

through an ROTC program. Individuals who decide not to become a commissioned

officer within the military often join the civilian workforce with significant leadership

skills and abilities (U. S. Army Cadet Command, 2016).

ROTC program admission requirements are standardized throughout the United

States. In addition to being accepted into the university or college campus in which the

ROTC program is housed, students must pass an Army Physical Fitness Test with a

minimum of 180 points (out of 300 points), complete an Army ROTC elective and lab for

each semester enrolled, and follow basic guidelines that include a zero tolerance policy

on drug use and permitted legal use of alcohol consumption (Guide to Understanding

ROTC Programs, 2017). Students who join ROTC on a campus must have a minimum of

two years until degree completion to be accepted into the program (Fischer, 2015).

Cadets enrolled in ROTC programs engage in classes focusing on combat survival

training, Army leadership, military tactics, principles of ward, and more (Guide to

Understanding ROTC Programs, 2017; Today's Military, 2017). Cadets within the

ROTC program on a university campus may range from a first year cadet (MS1) to a

fourth year cadet and have completed a Cadet Leadership Course (CLS; Fischer, 2015).

Successful completion of ROTC programs, which includes fulfilling the requirements of

a bachelor's degree, is contingent on a commitment of three to eight years of military

service in the rank of officer within the United States military (Guide to Understanding

ROTC Programs, 2017). Time served is dependent upon individual contracts and must

be agreed upon by both parties.

Predictors of Success in Military Programs

Success within military equivalent leadership programs is important to examine the return on investment (ROI) in which the Department of Defense spends on training individuals to become officers within the military. Indicators of success examining service academies, ROTC programs, and Officer Candidate School (OCS) have been scrutinized through many quantitative and qualitative analyses to compare effectiveness of each program (Advanced Management Program, 2004). These indicators have been identified as retention rates, career progression, and attainment of flag rank (Advanced Management Program, 2004; Mattock et al., 2014). Although strong indicators overall, long-term indicators do not present a direct analysis of ROTC programs and its effectiveness, nor does it assist in identifying characteristic markers that may increase or decrease an individual's likelihood to maintain status within an ROTC program, OCS, or service academy (Advanced Management Program, 2004). The following section provides a literature review of specific variables found to predict success within military programs. Any deviations from studies focusing on the branch of the Army are specified.

Leadership characteristics. Leadership within ROTC programs are designed to maximize current abilities, define and expand on abilities of cadets, and pursue positive growth into officer candidates. Programs measure success to include academic performance, length of time serving with the United States Army as an active duty member, and performance on the Army Physical Fitness Test (Advanced Management Program, 2004; Fischer, 2015; Kelly et al., 2014; Mattock et al., 2014).

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Throughout each branch in the military, retention rates pose a concern. The United States Army focuses on increasing the retention of company-level officers with growing focus on lower junior officer continuation rates (Mattock et al., 2014). Across four years of military training in an ROTC program, leadership evaluations are conducted in conjunction with high school class rank, College Entrance Exam Rank (CEER), SAT/ACT scores, grade point average, leadership ability, and physical fitness. Identification of these scores and abilities are crucial prior to active duty service, as research has indicated that cadet performance is predictive of officer performance (Kelly et al., 2014).

However, as research over the past 30 years has examined primary characteristics of leadership as an officer with the United States military, more recent research has expanded beyond cognitive and aptitude ratings, identifying non-cognitive attributes that may predict officer ability. Kelly et al. (2014) defined non-cognitive abilities as personality attributes, attitudes, values, and social beliefs (i.e., persistence, motivation, emotional intelligence). This study identified a 20% increase in outcome predictions for training success and job performance, when examining leadership qualities through a nontraditional approach. Researchers found that although external predictors of CEER and physical fitness significantly predict success in military academy completion, grit and hardiness may also have significant contributions to success. Previous studies support hardiness and grit as factors that may predict overall performance and success within the military (Maddi, 2007; Eskreis-Winkler et al., 2014; Kelly et al., 2014).

Researchers argue that personality characteristics of hardiness and grit can be built upon by leaders within the military community, increasing resilience in response to operational stress within military units (Bartone, 2006). Resilience characteristics may be identified by the hardiness and grit of an individual, with a distinct identification of personality characteristics measured to identify how well an individual may endure, recover, and grow from situations experienced within the military (Jackson, Thoemmes, Konkmann, Ludtke, & Trautwein, 2012; Bartone, 2006; Eskreis-Winkler et al., 2014; Maddi, 2007; Taylor et al., 2008). Grit is defined as the disposition to pursue a goal with a primary long-term goal that takes time and effort (Eskreis-Winkler et al., 2014). Hardiness has been defined as a pattern of skills and attitudes to support courage in transitioning stressful situations into opportunities for growth and success (Maddi, 2007). Hardiness is believed to be a key component in measuring resilience as well as grit. High-stress exposure is a well-known job hazard when individuals are employed through the Department of Defense as a military service member. Developing or expanding on current levels of hardiness and grit in an effort to build resilience, are current focuses in research and literature among the military community (Bartone, 2006).

Eskreis-Winkler et al. (2014) found grit is predictive of educational attainment, academic performance, and military attrition within cadet programs. Results of this study indicated that those rated with higher levels of grit were more successful within military cadet programs and less likely to voluntarily drop out of an officer-candidate course. This effect held when controlling for intelligence and physical fitness, two

traditional predictors of Army retention (Eskreis-Winkler et al., 2014). Maddi (2007) argues that training in hardiness may increase retention rates within Special Forces units and across the military overall, with a focus on transformational coping, socially supportive interactions, and effective self-care to assist in resiliency-building skills. Resilience, hardiness, and grit have been similarly identified as key personality characteristics that assist individuals in overcoming challenges, persevering through changes and traumatic experiences, and succeeding amidst diversity (Bates et al., 2010; Eskreis-Winkler et al., 2014; Kavanagh, 2005; Maddi, 2007; Taylor et al., 2009).

An increase in psychological demands has proven a necessity in the completion of military-related missions and services, indicating a distinct need for psychologically sound and well-balanced military service members (Bates et al., 2010). Bates et al. (2010) define the psychologically fit mind as an "integration and optimization mental, emotional, and behavioral abilities and capacities to optimize performance and strengthen the resilience of warfighters" (p. 21). Researchers argue that even when all other variables are at optimum levels, without resilience (the ability to endure, recover, and grow when adapting to new challenges), military members may lack the ability to be of sound mind and psychologically fit for duty in continued capacity of what their jobs entail. Models have been proposed to ensure psychological fitness, with careful examination of resilience, the subjective and multifactorial levels of psychological processes, and current lack of operational and population-based metrics.

Bates et al. (2010) argued for a model that incorporates psychological factors, building on empirical research that has proven to increase psychological fitness. This model, military demand-resource (MDR), presently in its pilot stage, poses limitations, as current military practices do not incorporate an operational definition of psychological fitness variables, nor are they measured within this population. Although a potentially sound model, MDR requires more research. Specifically, researchers have recommended that the Department of Defense adopt operationally defined factors of psychological fitness. Although the MDR model has sound psychological properties but is lacking in research, resilience is an oft-measured and frequently used measure of psychological fitness and ability to perform basic military functions (Bates et al., 2010; Kavanagh, 2005; Taylor et al., 2009).

Personality

It is often argued anecdotally that to survive within the military culture, a specific type of personality is needed, facilitating healthy responses during challenging life experiences and events that others consider to be traumatic. Use of humor and an attitude of "sucking it up" when faced with a problem are coping strategies and attitudes associated with this survivalist personality type (Campbell et al., 2010). Military personnel often encounter experiences that challenge who they perceive themselves to be and stretch their ability to overcome tough situations. To date, limited

studies have examined personality characteristics and traits (i.e., the Big Five Personality traits), which may determine the likelihood of individuals joining the military and the likelihood of retention and pursuit of a military career (Campbell et al., 2010).

Jackson et al. (2012) was one of the first to identify life experiences and its associations with personality traits. Comparison with a control group indicated that enlisted military recruits in Germany were found to be lower in agreeableness, neuroticism, and openness to experience. In a study that examined the Big Five personality traits on 1,261 German males, results indicated that experiences within the military had potentially long-lasting effects on personality characteristics. Overall, these findings suggest that military training is associated with negative changes in agreeableness (i.e., those who joined the military had lower levels of agreeableness and this decreased over time), has permanent effects on personality, and personality greatly influenced those likely to join the military. A major identification of this study includes the lower reported levels of agreeableness of those who joined the military, suggesting civilian service has direct responsibility for increased agreeableness. Limitations include population sample (higher education population), the observational nature of the study, and this study was conducted on German males and has yet to be replicated on military men serving in the United States Armed Forces. Conclusions of this study identified that the military may have a significant impact on an individual's personality, however an individual's personality may reciprocally have an impact on the likelihood of joining the military (Jackson et al., 2012).

Salimi et al. (2011) previously investigated the relationship between personality traits, the style of leadership, and methods used when management conflict within one military unit in Qom. The study conducted a cross-sectional correlational study on 200 senior managers within a military unit, using the NEO questionnaire and the Robbins questionnaire to examine personality traits and conflict management, respectively. Management styles (interchanged with leadership styles) include solution-seeker style, incompatible style, and controller style. Personality traits examined in this study included neuroticism (high levels of moodiness, including anger, jealousy, depression, and loneliness), extraversion, openness, agreement, and conscientiousness. A benevolent-consolatory leadership style was identified as most prominent, with 65.5% of those who participated in the survey identifying this as their leadership style. Results also indicated that extroversion and management style held a significant positive correlation. An incompatible style of leadership was identified with those who scored high on neuroticism, indicating that individuals rating high on neuroticism may have poor leadership abilities. Limitations of this study include a narrow sample study, sampled by convenience, and the population of military personnel was based outside of the United States (Salimi et al., 2011).

Thunholm (2009) identified five different styles involved in decision-making among military leaders among Swedish military personnel. However, these decision-making styles are not mutually exclusive and depend upon the rating scale used. Using the General Decision-Making Style (GDMS) inventory, the five styles were identified as

rational, intuitive, dependent, avoidant, and spontaneous. The GDMS identifies how

leaders make decisions, either career-related (personal) or overall leadership (external).

Previous studies have examined leadership and effective teamwork; however, no study

specifically identified leadership styles within military culture (Salimi et al., 2011;

Thunholm, 2009). Instead, studies examining leadership traits have identified personality

traits and its correlation with leadership development. Research has examined Myers-

Briggs Type Indicator (MBTI) styles and leaders (in general, not exclusively military)

and identified Extraversion, Thinking, and Judging (often known for being decisive,

focused on goal attainment, and energetic) as positive leadership characteristic traits

(Thunholm, 2009).

Thunholm (2009) designed a study to identify differences in leadership and

decision-making styles, which consisted of 98 army captains divided into 16 teams

attending the Staff Officer Program within the Swedish National Defense College. The

average age was 32. An identified pattern consisted of greater spontaneity and lower

rationality, less dependence, and less avoidance personality types. In a quasi-

experimental design, no active manipulation was utilized, with the independent variable

identified as decision-making style of the team leaders and the dependent variables were

position in the planning team (elected either teamer leader or a team member), age, and

task experience. Teams were provided with six hours to plan and execute a typical battle

scenario, with the team leader's responsibility of producing a plan, organizing and

managing the team, and successful execution under a program identified as Planning

Under Time-Pressure model. A standard multiple regression analysis was conducted to identify relationships between decision-making styles and quality of the plan developed. Approximately 50% of the elected team leaders were identified as possessing a different leadership style than the team members, with higher levels of natural decision-making and lower levels of dependency on others in the decision-making process, and more likely to be identified as quick thinkers when faced with difficulty decisions. The quality of the plan was not predictive of the decision-making style used by each team. Overall, results identified action-oriented and decisiveness as important components in leadership skills. Limitations of this study include the intercorrelations between the measures used, the small number of participants (groupings/teams), and the specific training military officers receive in decision-making were hypothesized to skew results slightly (Thunholm, 2009).

In a meta-analysis, Campbell et al. (2010) identified a multitude of studies that investigate the relationship between personality traits and outcomes of training models. However, selection processes within the military do not incorporate specific psychometric personality assessments within this selection, relying more heavily on cognitive skills (i.e., average IQ) and academic performance. Personality characteristics commonly seen in military personnel involved in the aviation division were identified within this meta-analysis. Overall, 24 studies examined personality predictors in successful completion of aviation training, with three primary personality scales replicated in multiple studies (16PF, Edwards Personal Preference Scale, and Eysenck

Personality Inventory). Three constructs assessed emerged including: neuroticism (N), extroversion (E), and the construct of anxiety (A). A majority of the studies were implemented on U. S. military personnel, although two sampled the United Kingdom and one from the Royal Air Force. This meta-analytic study had the primary purpose of "identifying personality assessments as predictors of aviation training outcomes by disaggregating personality into two higher order constructs" (Campbell et al., 2010, p. 104). The intention of the study was to identify a distinct personality style or trait of aviators within the military sector. No direct study produced significant results to support this hypothesis. However, a distinct pattern was identified between the three primary traits. Namely, extroversion and emotional stability were directly correlated with a successful outcome of the aviation program indicating that individuals with these traits are well suited to handle the stressors of the military aviation program. In comparison, individuals rating high on neuroticism and anxiety were highly correlated with failure of the aviation training program (Campbell et al., 2010).

Results from Campbell et al. (2010) indicate that although a distinct personality type may not have been identified, specifics traits of individuals can assist as predictors of success within a military program. A limitation of this meta-analysis included incompatibility of multivariate effects from the methodology and therefore individuals scoring low on neuroticism and high on extroversion were not investigated further (Campbell et al., 2010). Another limitation to this study is a current limitation to most studies regarding personality and predictors of success in military programs: a small

number of studies overall that examine these correlations. Although research is

expanding in this area, empirical examination of personality factors predicting success in

military occupations has proved difficult in identifying. However, the current research is

indicating growing significance in identifying viable personality factors that predict

overall success in programs of the military (Campbell et al., 2010).

Stowers and Thompson (2011) identified structural changes within the military

that have led to an increased need to examine personality factors that may assist in

identifying successful candidates in military programs. Two primary changes have been

identified: the role change of the military from a "boots on the ground" warfighter to a

more strategic peacekeeper of international concerns and the expanded use of private

contractors in paramilitary operations. The ability to be stress-resilient may better

prepare troops for engaging in guerilla warfare and to work with private contractors with

different experiences. Stowers and Thompson (2011) identified normal psychological

traits as emotional adjustment, intellectual efficiency, interpersonal relations, integrity,

and control as beneficial in assisting military personnel with handling the changes of new

military tactics.

Self-report screenings on personality traits may assist the military in determining

personality traits best adapted to handling the way war is engaged in current crises,

including how to handle prisoners of war ethically, engaging in the enemy indirectly, and

refraining from illegal or unethical activity of ambiguous guidelines. Stowers and

Thompson (2011) conducted a study which examined personality using the Protective

Services Report (PSR), developed from the 16 Personality Factor Questionnaire. The PSR examines four additional dimensions specific to protective services positions: emotional adjustment, integrity/control, intellectual efficiency, and interpersonal relations. Sampling 267 first-time recruits globally holding paramilitary positions, this study examined the efficacy of PSR and its ability to predict the clinical interview score candidates encounter when selected for military training. Results indicated through a multiple regression model that significance was identified, indicating that the PSR could predict 20% of the variance of the clinical interview score. Specifically, intellectual efficiency and interpersonal relations can be accurately predicted by the PSR. Limitations of this study include minimal gender diversity, with 83% of the sample size consisting of males, and the population of the candidates used included for civilian police (paramilitary) indicating a high probability of prior military experience. Although a potentially useful tool overall, this study indicates the importance of examining personality factors for committed success in completion of military training programs.

Transactional Model of Stress and Coping

Lazarus and Folkman (1984) purported that stress and coping occur as a transaction, where an interaction exists between an individual and his or her environment and stress occurs if there is an imbalance between the demands of the environment and resources of the individual. Resource availability influences how an individual handles the stressful event rather than the intensity of the stressful situation itself (Scott, 2012). Lazarus and Folkman (1984) argued further that primary and secondary appraisal occurs

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as part of the transaction between stress and coping. In primary appraisal, an individual

identifies whether or not the stressful event affects him or her personally and its

significance, desirability, and evaluation of harm (Lazarus & Folkman, 1987; Scott,

2012). A stressful situation holds three main components: harm or loss that has occurred

so far, potential threats, and the potential reward or gain from the experience. After a

primary appraisal, the individual will engage in a secondary appraisal, in which the best

approach of action is determined. In this stage of appraisal, an individual will identify his

or her inner strength and ability to handle the situation and external supports (i.e.,

professional health, peers, familial support) to determine the amount of resources

available in handling the situation (Scott, 2012).

After the primary and secondary appraisal of a situation, an individual may then

take two approaches to coping with the situation: problem-based coping and emotion-

based coping (Lazarus & Folkman, 1987; Scott, 2012). Problem-based coping is

identified as occurring when an individual believes he or she has control of the situation

and can define the problem, generate and evaluate alternative solutions, learn new skills

to manage the problem, and reappraise the situation after it occurs. Emotion-based

coping is identified as occurring when an individual believes he or she has little control

of the situation and may struggle to manage the source of the stressor (Lazarus &

Folkman, 1987; Scott, 2012). An individual engaging in emotion-based coping may

avoid the situation, distance him or herself from it, come to accept the situation, or

engage in less healthy habits such as venting anger, engaging in substance use, or more (Scott, 2012).

Studies that examine the transactional stress model have indicated mixed results (Delahij & van Dam, 2015). The belief that emotion-focused coping can only be used in situations that are thought to be uncontrollable has evolved into a more complex theory where a repertoire of coping strategies is developed for the purpose of situational flexibility (Delahij & van Dam, 2015; Scott, 2012). Individuals who may hold a variety of coping strategies may be better suited to responding to situations within or beyond an individual's control (Scott, 2012). Specifically, within the military, active duty members are expected to control each situation they encounter, and often problem-focused coping is taught during basic training, officer training, and resilience training pre- and post-deployment. Limited research though focuses on teaching emotion-focused coping skills to military service members to provide flexibility in adaptation to situations a military service member may encounter (Delahij & van Dam, 2015).

Studies have incorporated the transactional model of stress and coping within the military to identify potential coping styles in analysis with symptoms of acute stress. Taylor et al. (2009) examined how the four main coping styles (active coping, passive coping, problem-focusing, and emotion-focused) may impact reporting on an acute stress scale in a population of Navy personnel during SERE (Survival, Evasion, Resistance, Escape) training. Authors of this study continued the theorized belief that personality traits may influence how individuals respond to environmental situations. Participants in

this study consisted of 35 healthy and active males in the active duty service branch of the Navy had a mean age of 21.7 years and no previously identified head trauma or PTSD. Prior to SERE training, individuals in the study completed the Perceived Stress Scale-10 and the Ways of Coping Scale. As the participants experienced SERE training, a trained clinician administered Dissociative States Scale after high-intensity challenges. An Impact of Event Scale-Revised was completed 24 hours after the SERE training was completed. Results indicated passive and emotion-focused coping styles significantly influenced reported acute stress symptoms. Participants who reported utilizing emotion-focused and passive coping styles reported higher levels of acute stress from SERE training. Comparatively, problem-focused and active coping did not relate to reported acute stress completing SERE training. This study contributed further to the examination of personality traits and its influence in military training. Limitations of the study included limited time post-training (only 24 hours), and coping styles were measured pre-SERE training (Taylor et al., 2009).

An important component within the military, stressful situations are likely to occur at higher frequency than a majority of other organizations (Delahaij & van Dam, 2016; Taylor et al., 2009). Research has indicated that an individual's coping style can greatly influence a person's ability to handle stress in the work environment (Delahaij & van Dam, 2016; Lazarus & Folkman, 1987; Scott, 2012; Taylor et al., 2009). The organization of the military often train personnel throughout basic training, socialization programs, and stress management techniques how to effectively cope with problems

encountered on the job. Delahaij and van Dam (2016) conducted a study aimed at examining the development of a coping style during basic training in the military and how learning goal orientation and meta-cognition contribute to changes in coping style throughout training. Participants of this study included officer cadets within the Netherlands Defense Academy currently experiencing 18 weeks of basic military training, infantry recruits experiencing 22 weeks of training from the Netherlands Air Mobile Brigade, and Marine recruits experiencing 30 weeks of basic training. The analysis focused on a structural equation modeling with auto-regression to investigate the hypotheses that 1) learning goal orientation is positively related to coping style development and 2) metacognitive awareness can mediate the relationship between learning goal orientation and the development of a coping style. Results indicated that learning goal orientation during training has positive effects on training outcomes in general and the development of a coping style. This further adds to the research that learning goal orientation is positively correlated with problem-focused coping. Limitations include a self-reporting bias, small sample size, the small amount of empirical research to include within this study as it is a new area of research, as well as the study was conducted outside the United States (Dalahaij & van Dam, 2016).

Negative coping styles. Emotion-based coping may have its downfalls, as individuals who struggle with understanding and accepting how they are working through a crisis may employ strategies detrimental to overcoming a stressful situation. Emotion-based coping is often employed when an individual believes he or she does not have

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entire control over the situation. Strategies may include avoidance, distancing,

acceptance, selective attention, venting anger, or engaging in activities that reduce the

problem (i.e., alcohol abuse; Ames, Cunradi, Moore, & Stern, 2006; Kavanagh, 2005;

Scott, 2012; Stanley et al., 2001; Taylor et al., 2009). Avoidance is often observed as an

individual refusing to engage in any activity that would place him or her in a stressful

situation (Scott, 2012). Although not an outright negative coping style, this may prove

harmful if it begins to limit the functional abilities of that individual (Ames et al., 2006).

Distancing occurs when an individual is likely to remove him or herself from identifying

with the emotion of stress, either by stating he or she is not stressed, or carrying on as

though he or she has no primary concern. Alcohol abuse, selective attention, and

improper control of anger are other negative coping styles, which may lead to a decreased

ability to respond appropriately to the stressful situation (Ames et al., 2006; Scott, 2012).

Coping styles may not be inherently 'negative' or 'positive' but it is important to

recognize that passive coping styles and emotion-based coping may increase problems

and decrease an individual's functional ability to work through a stressful situation

(Scott, 2012). It is important to note that coping styles play an integral role on how an

individual handles stressors and develops as an individual. Negative coping styles that

create a negative feedback loop may place an individual at-risk for developing mental

health disorders including addiction, PTSD, anxiety, depression, and more (Ames et al.,

2006; Scott, 2012).

Stress Management

Successful management of stress is believed to contribute to posttraumatic growth, positive adaptations from stress situations, and psychological fitness (Meichenbaum, 2012; Collier, 2016). Multiple models of stress management exist and specifically stress inoculation training is one. Meichenbaum (2007) purported a theory known as Stress Inoculation Theory (SIT), which focuses on preventing and reducing stress to address questions in building resilience, and aid individuals who experience stressful situations to adapt. The belief behind the concept focuses on exposure to stressful situations in small doses, provided with appropriate coping mechanisms, may assist individuals in building resilience and increase the capability to handling situations that may be considered more stressful in the future (Meichenbaum, 2007). Stress inoculation was developed in the 1970s and many theorists have developed specific models related to stress and coping.

Stress Inoculation Therapy (SIT). Meichenbaum (2007) developed a therapy designed to inoculate individuals to stress, similar to how medical vaccines inoculate individuals to (potentially) deadly viruses such as the flu or smallpox. Development of stress inoculation starts with the transactional model of stress and coping by Lazarus and Folkman, as previously described. The way in which individuals and communities understand, describe, and develop emotional pain has a direct influence on coping (Meichenbaum, 2007). SIT is a specific therapy designed to assist individuals with understanding how engaging in behaviors (i.e., avoidance, ruminating, absence of self-

disclosure, failure to access social support, catastrophizing, etc.) may further increase

distress. Through phases, patients of SIT may learn to overcome destructive behaviors

and engage and process traumatic experiences that allow for growth and positive

development from stress. Three phases occur in SIT: conceptual educational phase, skills

acquisition and consolidation phase, and an application and follow-through phase. Goals

of SIT include development of intra- and interpersonal skills and flexible application of

coping skills depending upon the stressful situation the individual encounters. Although

each phase is a process, it does not occur in a chronological order, instead being fluid

throughout therapy. Educational understanding of stress and coping may occur

continuously through therapy, as will skill acquisition and application of those skills.

Over 30 years of research have supported the wide application of SIT within the medical

model, working with patients in a psychiatric environment, clients experiencing traumatic

events, and, most importantly for the purposes of this study, the usefulness of SIT for

entrance into the military sector (Meichenbaum, 2007). However, an important

component to understanding how SIT may be used within the military is identifying its

lack of use within the Department of Defense.

　　　　Performance under stress is a long studied component within the military.

Multiple pieces of Meichenbaum's model on SIT have been incorporated within different

branches, with a primary focus on Special Forces for the Air Force, Army, and Navy

SEALs (Hourani, Council, Hubal, & Strange, 2011; Robson & Manacapilli, 2014).

Reviewing the implementation of SIT within the military, Robson and Manacapilli

(2014) identified current approaches to SIT and its overall effectiveness on the

performance of those within active duty. A primary critique of the military's use of SIT

is its lack of formality within the program. Resilience training is prevalent in all branches

of the military as well as primary pieces of SIT, yet each of these components are only

provided after the military service members have completed basic training and are

inducted into their current job numbers (for example, a cadet becoming a navy SEAL

does not receive stress inoculation until after boot camp and once they are through to the

process of becoming a navy SEAL; Hourani et al., 2011; Robson & Manacapilli, 2014).

Branches of the military employ strategies of building resiliency and ensuring better

performance under stress without employing the use of SIT (Robson & Manacapilli,

2014). Strategies include screening individuals for levels of stress, monitoring physical

fitness capabilities, embedding training on psychological enhancement within training

(including goal setting, motivation, self-efficacy, locus of control, anxiety, teamwork,

persistence, emotional control, and situational awareness). There is minimal focus on

practicing skills taught, with a trial-by-error plan as the primary method of practicing

understanding of psychological enhancement. Training pre- and post-deployment are

often provided as well, with briefings on resilience and stress response for military

members and family members. This training often includes situational awareness,

attentional conditioning, muscle control, and controlled breathing. A limitation to this

training though is that it is not standardized, is delivered in different methods (i.e., a

briefing for some units, lecture method for others, and the opportunity to practice in other

units), and is not provided to all military service members (Robson & Manacapilli, 2014).

Robson and Manacapilli (2014) conducted a study to focus on three primary

stages: enhancing airmen's understanding of stress and its effects on decision-making,

performance, thoughts, and emotions, provide skills for increasing behavioral and

cognitive abilities to aid performance under stress, and allow for the opportunity to

practice new skills under controlled conditions. Provided with previous information on

stress management, the focus group involved in this study did identify positive coping

skills they had learned throughout time in service within the military, although no formal

training could be identified. A current limitation of stress management within the

military is the lack of standardized data, as each branch of military, as well as different

units within, provide different levels of training for stress management and rely more on

informal trial-by-error in development of coping skills.

Robson and Manacapilli (2014) have nine primary recommendations for training

stress management based on limitations identified within the military. The first one

would focus on development of curricula for SIT, emphasizing skills that facilitate

performance under stress. This includes focusing on coping strategies and goal setting to

decrease anxiety during challenges. A second recommendation identifies the opportunity

to integrate common stressors from "downrange experiences" which Robson and

Manacipilli (2014) identify this as "documenting the specific nature, range, and intensity"

(p. 30) of stressful situations. A third recommendation includes assuring applicable skills

have achieved mastery prior to exposure to stressful situations. This includes longer

preparation courses (from the standard two-week course for some units) that focus on

building coping skills. A fourth recommendation focuses on specific training

occupations, with a water training facility for para-rescuers and combat control training

to reduce documented health concerns (including upper respiratory infections, ear

infections, etc.). A fifth recommendation focuses on providing ample opportunities to

practice newly developed coping skills, inoculating individuals to stressful situations. As

a sixth recommendation, virtual reality (VR) models are growing in use, with extended

training on providing the opportunity to simulate real-life experiences in a VR format. It

is recommended that research within the military continue to expand on this and identify

its potential effectiveness. A seventh recommendation includes screening tools that

predict success in stressful conditions. A formal and valid tool has not currently been

standardized across all military units or branches and continued effort on identification of

one is recommended. The eighth recommendation includes measuring the evaluation of

screening tools and SIT; this includes formative and summative measures on the

effectiveness of stress management within the military. Progress monitoring is an

essential component in evaluating the effectiveness of employed tools. The ninth and

final recommendation by the authors include increasing awareness and support services

for mental health, as recognition and training of mental health is lacking within society

(Robson & Manacapilli, 2014).

Summary and Critique of the Literature

More than two million service members serve within the military. Of these two million, approximately 363,693 service members identify as holding the rank of officer (Office of the Deputy Assistant Secretary of Defense, 2014). The Reserve Officers' Training Corps (ROTC) began in 1916, with the development of the National Defense Act of 1916 (U. S. Army Command, 2016; Today's Military, 2017). Individuals enrolled in an ROTC program on a university or college campus earn a Bachelor's degree as well as status of ranking officer within the United States Army (Today's Military, 2017). Approximately 40% of the United States military's fighting officer force comes from an ROTC program. Return on Investment (ROI) on the long-term success of such programs has identified primary external indicators to measure within these programs, including retention rates, career progression, grade point average, leadership ability, physical fitness, ACT/SAT scores, and the attainment of flag rank (Advanced Management Program, 2004; Mattock et al., 2014; Kelly et al., 2014). Currently, many ROTC programs provide resiliency training, peer-to-peer counseling, and opportunities for improvement through more focused training, where necessary.

As research on military personnel has increased in the past 30 years, it has expanded to include personality attributes, values, and social beliefs of the individuals dedicating a multitude of years to service within the military (Kelly et al., 2014). Examination of hardiness and grit have become viable characteristics within the literature, with researchers focused on identifying how much hardiness and grit play

role in successfully overcoming traumatic experiences and psychologically demanding situations within time in service (Bates et al., 2010; Eskreis-Winkler et al., 2014; Kavanagh, 2005; Kelly et al., 2014; Maddi, 2007; Taylor et al., 2009). Grit and hardiness are crucial building blocks to building resilience, as without resilience, individuals may struggle to overcome challenges they are presented with in life, leading to stagnation and an inability to successfully complete their jobs within the military (Bates et al., 2010; Eskreis-Winkler et al., 2014; Kelly et al., 2014; Maddi, 2007). A current focus on research is the development of programs that increase psychological fitness within the military potentially to reduce rates of PTSD. Bates et al. (2010) proposed the military demand-resource (MDR) model, in which skills are built based upon the resources required for task completion. Enhancing the understanding of personality characteristics that may predict ROTC students' academic success and persistence may further contribute to existing literature.

Research and evidence-based practice to build resilience focused on the military population is in its beginning stages (Hourani et al., 2011; Jones, Hyams, & Wessely, 2003; Kelly et al., 2014; Morgan & Bibb, 2011; Stanley et al., 2011; Steenkamp & Litz, 2013). Although limited, current research focused on military service members has focused on reducing the effects of PTSD, identifying effective treatments and therapies that reduce its symptoms, and increasing resilience among the active duty, reserve, and dependent military populations (Kelly et al., 2014). Minimal studies focus on reducing the prevalence rate of PTSD prior to the traumatic exposure (Hourani et al., 2011; Jones

et al., 2003; Morgan & Bibb, 2011; Stanley et al., 2011; Steenkamp & Litz, 2013). Each branch of the military has programs specifically designed to address resiliency skill-building, yet no universal program exists beyond resilience building, and PTSD rates are still climbing (Hourani et al., 2011). A shift in focus on reactive skills and research and a more proactive approach toward positive emotion interventions that are evidence-based may prove beneficial within the military community (Morgan & Bibb, 2011).

Stress-Inoculation Training (SIT), a method of stress management, has been proposed as a potential solution to assist in reducing PTSD rates within the military and increasing resilience among military personnel (Hourani et al., 2011; Meichenbaum, 2012; Robson & Manacapilli, 2014). SIT provides the opportunity to expose military personnel to smaller, controlled situations that may prove to be psychologically stressful, teaching positive coping skills that assist the service member in overcoming and persevering in times of stress. Although a potentially successful therapeutic method, few studies have examined its potential effect on the military community. SIT is currently a widely-acknowledged preventive approach, yet sound methodologically rigorous studies within the military population are lacking at present (Hourani et al., 2011; Robson & Manacapilli, 2014). Presenting a model of SIT within an ROTC program at a university has the potential to bridge this gap within the research.

As identified by Robson and Manacapilli (2014), a primary flaw within current studies on SIT for military service members is the time of implementation – branches refrain from stress inoculation until prior to a deployment, after a deployment, or after

basic training and school has been completed (school indicates when they receive specific training on their job duties within the military branch they are serving). The specialized men and women trained within each branch (Air Force, Navy, and Army) are limited to combat airmen, SEALs, and Special Forces (respectively) and have received and encountered training similar to or replications of SIT (Hourani et al., 2011; Robson & Manacapilli, 2014). Although these differ in some respects according to the adaptability of the branch in which they are implemented, they are primarily limited to implementing stress inoculation after basic training and only toward specific combat units (Robson & Manacapilli, 2014). Further, analysis of the contribution of SIT to ROTC students' academic success and persistence during the early years of enrollment may aid ROTC administrators in the implementation of empirically supported curriculum and practices that may enhance academic persistence.

Problem Statement

A present problem within officer training programs such as ROTC, is low retention rates, ranging anywhere from 40% to 70%. Many programs lose a vast majority of students who initially join the officer-candidate program (U. S. Army Cadet Command, 2016; Today's Military, 2017). In addition to low retention rates on the front end of military service, with increasing frequency, many military service members have been diagnosed with PTSD, experiencing traumatic events they struggle to overcome (Hourani et al., 2011; Ireland, Kress, & Frost, 2012; Jones et al., 2003; Kavanagh, 2005; Maddi, 2007; Morgan & Bibb, 2011; Stanley et al., 2011; Steenkamp & Litz, 2013;

Taylor et al., 2008; Taylor et al., 2009). Objective, research-supported factors that identify why retention rates are low in ROTC programs have currently not been gathered. However, it is surmised that the culture of the military may have an impact on why it has not been examined more thoroughly. Identifying personality characteristics, psychological well-being, and comparing these attributes to currently identified program indicators for success may assist future recruiters with increasing retention rates. Further, identifying a potential recruits' areas of need for developing coping skills and stress management may continue to increase retention rates and, at the back end, decrease the number of military personnel diagnosed with PTSD, as they develop skills that provide posttraumatic growth (Collier, 2016; Meichenbaum, 2012; Stringer, 2016). Understanding the variables may assist in identifying military personnel who may need further assistance in coping within the military community and play on the strengths of those who are more likely to overcome without additional supports. Identifying 'person' variables may assist in predict ROTC cadets' academic success and persistence and aid military and/or career advisors. Identifying the contribution SIT may have to ROTC cadets' academic success and persistence as well may aid in the implementation of formal training on healthy coping strategies in the face of trauma.

Research Questions

The current study will address two primary research questions, which examine critical variables of freshmen and sophomore cadets within a university ROTC program. Personality attributes have been identified as potential characteristics that may assist

career recruiters with identifying traits and psychological well-being that are likely to increase retention within a military program. Further, identifying these characteristics will assist practitioners in personalizing a stress-inoculation therapy focused on identified areas of strengths and needs within freshmen and sophomore cadets enrolled in this ROTC Program. The two research questions are:

R1. Can Stress Inoculation Training predict academic performance above and beyond personality variables (MBIT) and psychological/emotional status (MCMI-IV) in freshmen and sophomore cadets enrolled in a military science program?

R2. Can Stress Inoculation Training predict academic retention above and beyond personality variables (MBIT) and psychological/emotional status (MCMI-IV) in freshmen and sophomore cadets enrolled in a military science program?

<center>**Chapter III**</center>

<center>**Methods**</center>

University. Demographically, the university has approximately 417 acres of facility, with an average class size of 26 students in each class with a 20 to 1 student to faculty ratio. The average SAT score is 1006 and the average ACT score is 21.9. An average of 13,000 students attend the university with 64% of the student body identified as female (46% male), and approximately 11,000 students identified as undergraduate students. Overall, the ethnicity/racial make-up of the university is as follows: 58.3% White/Non-Hispanic, 19.5% Black/African-American, 15.1% Hispanic, and 3.1% two or more (multicultural), 1.2% unknown, 1.1% international, 1.2% Asian, and 0.1% Native Hawaiian/Pacific Islander. The average age of a university student is 23 (undergraduates average age is 21 years and graduate age is 32 years), with approximately 64% of the student body under 21 years of age. Residency reporting consists of the following: 96% of the student body report Texas as their state of residency, with 90% report living within 200 miles of the university. A majority of the student body (83%) report coming from the area of Dallas, with East Texas (30%) second, and Houston (29%) third in line. Approximately 335 students originate outside of Texas and reside in at least 43 different states, and 116 students report coming from 46 foreign countries.

ROTC program on campus. According to reports of the previous six years, approximately 118 candidates are inducted into the ROTC program for every 15 officers

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to join the military force (Pfeiffer, personal communication, February 2, 2017). This

presents a 12.5% retention rate overall from the first year (freshman year) of college until

the fourth year (senior year). Specific breakdown identifies that between year one and

year three, the retention rate is the lowest, with approximately 40.5% of freshmen

continuing the program into the second year and 50% continuing the program into the

third year from sophomore to junior status (Pfeiffer, personal communication, February

2, 2017). ROTC at the university level focuses on developing leadership abilities,

motivational skills, and essential abilities to conducting missions (SFASU, 2017). As

with other ROTC programs across the nation, graduation from ROTC at the university

provides the award of Second Lieutenant within the United States Army, in which

graduates will continue specialized training in their desired field (SFASU, 2017).

Retention rates listed are described as students who begin their first year (freshmen) at

the university enrolled into the ROTC program and return the academic year (Pfeiffer,

personal communication, February 2, 2017). Percentages were reported by the

Lieutenant Colonel in charge of the ROTC program on campus and were released for the

purpose of this study. Class rosters were compiled and identified retention consisted of

student's who returned to the program the following fall semester. Raw numbers were

disregarded as it would inflate the return rate, as many cadets may join the ROTC

program as sophomores (according to university standards). Examination of a three-year

average of 2010 to 2013 yields a rate of 12.5%, with 2013-2014 yielding a rate of 14.6%,

2014-2015 yielding a rate of 11%, and 2015-2016 yielding a rate of 13.5% of retention (Pfeiffer, personal communication, February 2, 2017).

Further, the breakdown between each year of enrollment increases drastically as freshmen are identified as more likely to drop out of the ROTC program and seniors are more likely to maintain enrollment and become commissioned officers within the ROTC program. An average rate has been identified from 2010 to 2015 and are reported as follows. For freshmen to sophomore year, the average rate of retention over six years is approximately 40.5%. The retention rate from 2010 to 2013 (three-year average) is approximately 41%. In the 2013-2014 school year this retention rate was 36%, in the 2014-2015 school year the rate was 31%, and in the 2015-2016 school year the rate was 53%, with a significant jump from the 2014-2015 school year to the 2015-2016 school year (22% increase). From sophomore to junior year between the years 2010 and 2015, the average rate of retention is approximately 50%. The retention rate from 2010 to 2013 (three-year average) is approximately 48%. In the 2013-2014 school year the retention rate was 66%, the 2014-2015 school year yielded a rate of 57%, and the 2015-2016 school year yielded a rate of 33%. For the junior to senior school year between 2010 and 2015, the average rate of retention was approximately 80.3%. The retention rate from 2010 to 2013 (three-year average) is approximately 88%. The 2013-2014 school year yielded a rate of 75%, the 2014-2015 school year yielded a rate of 66%, and the 2015-2016 school year yielded a rate of 77%. For the senior school year to successful commission of a Second Lieutenant in the United States Army, the average rate from

2010 to 2015 was 82%. The retention rate from 2010 to 2013 (three-year average) is approximately 82%. The 2013-2014 school year yielded a rate of 82%, the 2014-2015 school year yielded a rate of 94%, and the 2015-2016 school year yielded a rate of 100% (Pfeiffer, personal communication, February 2, 2017). Retention rates across the four years of university enrollment are considered typical. For this reason, this study will focus on freshmen and sophomore cadets and its ability to identify some of the variance for the earlier years of time spent at the university.

Dependent Variables

Academic performance. Grade point average for the 2017 fall semester (only) in the middle of the semester will be examined as the dependent variable. This will be operationally defined as the grades each student earns in the fall 2017 semester. It will exclude any previous semester grades and will not examine a cumulative GPA score in the primary analysis. Currently, SAT/ACT scores, APFT scores, and high school GPA are measured as strong overall predictors of success within ROTC programs. This study will examine if stress inoculation training can predict above and beyond personality variables (MBTI) and psychological/emotional factors (MCMI-IV) the variance of academic performance within freshmen and sophomore cadets on a university in the fall semester of 2017.

Academic persistence. Academic persistence is identified as whether or not individuals continue to stay enrolled in the ROTC program after the end of the fall semester. Based on the extremely low retention rates for freshmen and sophomores

within the ROTC program, this is an integral component to the study, as current predictors of success (SAT/ACT scores, APFT scores, and high school GPA) have not proven to be effective in predicting retention rates in the early years of college and the ROTC program.

Independent Variables

Personality variables. The Myers-Briggs Type Inventory (MBTI) is a personality assessment inventory that categorizes personality factors into 16 different personality types. The reliability of the MBTI was assessed by Lawrence and Martin (2001) through the Center for Applications of Psychological Type. Lawrence and Martin (2001) determined in a test-retest reliability measure that approximately 75-90% of the time, individuals matched with three to four of their preference types in both tests. Myers, McCaulley, Quenk, and Hammer (1998) identified the validity and reliability of the MBTI forms. Overall, reliability is reported as good within the MBTI, with the lowest area of reliability identified within the true-false (T-F) section. Internal consistency of the MBTI for each section range from .86 to .95, indicating excellent reliability (Myers et al., 1998). Test-retest reliability measures range from .83 to .95, indicating excellent reliability on Form M. Myers et al. (1998) is careful to identify the validity of the MBTI aligns with personality classifications of the 16 types that individuals presented with the scores agree upon. Confirmatory factor analysis to confirm validity of the assessment has been conducted with a goodness of fit reported at .949, indicating an excellent fit (Myers et al., 1998). Correlations examining the four

scales indicate strong support for the model. Research has begun emerging indicating

strong validity of the whole-type model as well (Myers et al., 1998). For the purposes of

this study, the short form of 70 questions will be used, which omits the true or false

questions and answers. It is expected the MBTI should take no more than 15 minutes to

complete.

The MBTI is most commonly described as four pairs of dichotomous constructs,

based off Carl Jung's theory of personality (Vincent, Ward, & Denson, 2013). The pairs

are always described in four distinct patterns, with the first dichotomy focused on how

people direct their energy – internally focused on thoughts and reflections (Introversion –

I), or externally focused on people and things (Extraversion – E). The second

dichotomous pattern focuses on how individuals absorb the information around them –

using senses and focusing on the present, real, and tangible (Sensing – S), or going

beyond real or concrete and focusing on future possibilities, patterns, and meaning

(Intuition – N). The third dichotomy focuses on how individuals make decisions – either

through impersonal, objective logic (Thinking – T), or with a person-centered process

focusing on values (Feeling – F). The fourth and final dichotomy identifies differences in

how individuals orient in the external world – either by careful planning and organizing

(Judging – J), or through a spontaneous and flexible approach (Perceiving – P). Each set

of dichotomous constructs result in 16 personality 'type' combinations describing

educational and career choices, leadership and management performance, physical and

mental health, stress and performance, temperaments, and relationship choices and

satisfaction (Vincent et al., 2013). For the purpose of the study, the first two letter

(Introversion or Extraversion, Thinking or Feeling) will be used in the analysis as

research has identified them as being most predictive of personality characteristics within

the military.

       Psychological/emotional status (MCMI-IV). The Millon Clinical Multiaxial

Inventory 4th Edition is a psychological profile that identifies psychopathology within a

client (Millon, Grossman, & Millon, 2015). This assessment consists of 195 items in a

self-report format, designed to assist in identification of personality characteristics and

psychopathology for adults from 18 years of age and older. This inventory is designed to

take no more than 30 minutes and is strongly linked to personality theory.

Administration methods are flexible, with the option of English or Spanish, and using

paper and pencil or administering the test online, this provides a simplistic approach to

test administration (Millon et al., 2015). For the purpose of this experiment, the MCMI-

IV will be taken by pencil and paper. The reliability of the MCMI-IV identifies internal

consistency and test-retest reliability, only the reliability and validity of the English forms

will be presented (Millon et al., 2015). Internal consistency is identified through the

statistic coefficient alpha, indicating the items on a scale represent a similarity with the

underlying dimension. For internal consistency, the following was reported: Personality

Pattern scales, values primarily are in the good range, providing a median value of .84.

The Clinical Syndrome scale are also in the good range, with a coefficient alpha of .83.

The Grossman Fact reliability has a primary number of scores above .80, with seven

scales greater than or equal to .70. For test-retest reliability, correlation coefficients were

generally adequate to good across all scales, with coefficients greater than .80. A

majority of the effect sizes was under .20 (Millon et al., 2015).

Validity is how appropriate and supportive is the assessment in measuring what it

is designed to measure. Inter-correlations between subscales indicate expected

correlation strength, with Generalized Anxiety, persistent depression, and Somatic

Symptom scales having moderate correlations with one another (Millon et al., 2015).

External validity indicates a comparison to the Brief Symptom Inventory (BSI) and the

Minnesota Multiphasic Personality Inventory – 2 – Restructured Form (MMPI – 2 – RF)

and the MCMI 3rd edition, with patterns of correlations maintaining consistency of

expectations (indicating good validity; Millon et al., 2015). Overall, reliability and

validity ratings for the MCMI-IV were good indicators of successfully identifying

patterns in personality and any possible psychopathology with clients (Millon et al.,

2015).

Clinical syndromes. Syndromes identified within the MCMI-IV are best

described as disorders embedded within the 12 scales of personality patterns and three

severe personality pathology scales (Millon et al., 2015). They include seven clinical

syndromes (generalized anxiety, somatic symptom, bipolar spectrum, persistent

depression, alcohol use, drug use, post-traumatic stress) and three severe clinical

syndromes (schizophrenic spectrum, major depression, and delusional). Generalized

anxiety is defined as patterns of general tension, an inability to relax, and frequently

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ready to react. Somatic symptoms present as though preoccupied with physical health,

describing dramatic and unspecific pains in various parts of the body, including fatigue

and minor physical discomforts. Bipolar spectrum syndrome appears as individuals who

have periods of inflated self-esteem, restless over activity, impulsivity, and irritability,

shifting in mood frequently. Persistent depression often presents as individuals weighed

down with feelings of guilt, discouragement, behavioral apathy, and low self-esteem.

Individuals rating high on alcohol use and drug use scale syndromes likely have recurrent

histories of alcohol and/or drug use and have attempted to overcome the problem with

little success. Post-Traumatic scale presents as individuals who have experienced an

event that may have involved actual or perceived threat(s) including death or serious

injury, causing them to respond with feelings of helplessness, horror, or fear. The first

severe clinical syndrome, schizophrenic spectrum, describes individuals who fit the

pattern of disorganized, regressive, and incongruent with their behaviors. Confusion and

disorientation are frequent patterns within this syndrome, with blunted feelings and a

pervasive sense of isolation from others. Major depression, the second severe clinical

syndrome, presents as individuals incapable of functioning within their environment,

experiencing suicidal ideation, and containing a pessimistic outlook on the future. The

third severe clinical syndrome, delusional, described as individuals who may appear

paranoid and belligerent, expressing thoughts of irrational delusions that may be

persecutory, grandiose, or jealous in nature (Millon et al., 2015). For the purpose of the

study, only the following sections of the MCMI-IV will be used in the analysis: anxiety, PTSD, depression, alcohol use, and disclosure.

Stress inoculation training (SIT). Donald Meichenbaum developed stress Inoculation Therapy in 1985. A proven method, few studies have been conducted to examine the effectiveness of its methods on active duty service members (Hourani et al., 2011; Robson & Manacapilli, 2014). In SIT, seven primary steps are used when examining its implementation: first, cadets will be taught the transactional nature of stress and coping, 2) then training on self-monitoring maladaptive thoughts, images, feelings, and behaviors will begin, 3) a problem-solving method of defining the problem, identifying the consequence, anticipating the outcome, making a decision, and providing feedback will then be taught. On the fourth step, modeling and rehearsing direct-action, emotion-regulation, and self-control coping skills will be identified, 5) using step 2 in learning to recognize maladaptive thoughts, cadets will then be taught how to use these thoughts as cues to implement coping skills from step four. In step 6, practice and behavior rehearsal will be implemented to examine what it would look like for the cadet in a more controlled setting of the therapy room, with step 7 focused on maximizing those skills and assisting cadets with acquiring the knowledge, self-understanding, and coping skills to facilitate better ways of handling stressful situations (Meichenbaum, 1985). As Mechienbaum (1985) states, SIT consists of generally 3 phases: conceptualization, skills acquisition and rehearsal, and application and follow-through. Therapy will be divided into these three pieces, with the first phase, teaching

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conceptualization (steps 1 through 3) to all cadets, and then engaging them in acquiring

skills and rehearsing its implementation. Finally, in phase three, application and follow-

through will be identified through follow-up sessions and check-ins with the clinician.

This research study will examine how personality variables (MBTI),

psychological/emotional status (MCMI-IV), and participation of SIT will affect the

academic performance of freshmen and sophomore cadets within an ROTC program.

      Description. All participation of the study was contingent upon IRB approval,

which is included in the document (Appendix A). Participants of this study were

considered an ROTC cadet enrolled in the university and identified as either a freshman

or sophomore by university standards. It was expected that 60 students (based on

reported estimates from the past; Pfeiffer, personal communication, February 2, 2017)

were eligible for the study. Students' began ROTC courses in the summer of 2017. As

part of the course, participants completed a demographics page that collects general

information, a Myers-Briggs Type Indicator (MBTI), and the Multiaxial Clinical Millon

Inventory fourth edition (MCMI-IV). Test administration of the MCMI-IV, MBTI, and

demographics questionnaire occurred within a small classroom to ensure confidentiality

between each cadet. The primary experimenter collected and placed data in a locked

cabinet. Initial data collection of demographics, personality, and

psychological/emotional variables took approximately one hour. Data collection

occurred before the fall 2017 school year and participants with selected assignment to

group 1 or group 2 to determine when they will receive Stress Inoculation Training (SIT),

based on availability at sign up. The first group consisted of 13 participants, in which

cadets received Stress Inoculation Training in four one-hour sessions over the course of

the first eight weeks, in groups of 3 to 6 individuals. The second group (9 total

participants) completed SIT in the second eight weeks of the semester. A minimum of

two practicum (master's or doctoral level) students conducted the SIT sessions, with

supervision from the Counseling Director and School Psychology Assessment Center

(SPAC) Director. A script was designed to address how each session was conducted (see

Appendix C). See Appendix A for informed consent and Appendix B for measures used.

Sample Demographics

Thirty-eight respondents to the invitation for participation, out of the 60

distributed, completed the informed consent and demographics packet; 22 (57.9%)

participated in the Stress Inoculation Training and 16 (42.1%) did not attend or complete

the training. Gender of participants included: 24 (63.2%) males and 14 females (36.8%).

The age of the individuals who participated ranged from 18 (n = 25, 65.8%), 19 (n = 8,

21.1%), and 20 years of age (n = 5, 13.2%). The marital status listed identified one

individual (2.6%) as married, 36 (94.7%) as never married, and one (2.6%) individual did

not answer. Family of origin income was reported as follows: one (2.6%) reported in the

$20,000 to $29,999 range, one reported in the $30,000 to $39,999 range, 6 (15.8%)

reported in the $40,000 to $49,999 range, one (2.6%) reported in the $50,000 to $59,999

range, 5 (13.2%) reported in the $60,000 to $69,999 range, 5 (13.2%) reported in the

$70,000 to $79,999 range, 3 (7.9%) reported in the $80,000 to $89,999 range, 3 (7.9%)

reported in the $90,000 to $99,999 range, and 13 (34.4%) reported in the $100,000 to $149,999 range.

Individuals reported education level of the mother as follows: 8 (21.1%) had a high school diploma or equivalent, 4 (10.5%) had some college but less than one year, 4 (10.5%) had 1 or more years of college but not degree, 4 (10.5%) had an Associate's degree, 10 (26.3%) had a Bachelor's Degree, 7 (18.4%) had a Master's Degree, and one (2.6%) had a Doctoral degree. Reported education level of the father is as follows: 10 (26.3%) had a high school diploma, 7 (18.4%) had some college but less than 1 year, 4 (10.5%) had 1 or more years of college but no degree, 5 (13.2%) had an Associate's degree, 7 (18.4%) had a Bachelor's degree, 4 (10.5%) had a Master's degree, and one (2.6%) had a Doctoral degree.

The ethnic makeup of this sample is as follows: 14 (36.8%) reported to be of Hispanic or Latino origin and 24 (63.2%) reported to not be of Hispanic or Latino origin. The racial identity (according to the U.S. Census Bureau's definition) of the sample is as follows: five (13.2%) African American, 21 (55.3%) Caucasian, 9 (23.7%) Latino or Hispanic, and three (7.9%) identified as other. Table 1 displays the demographics of the overall sample.

Table 1 –Demographics

Variable	N	Percentage
Sex		
Male	24	63.2
Female	14	36.8
Age (years)		
18	25	65.8
19	8	21.1
20	5	13.2
Marital Status		
Now Married	1	2.6
Never Married	36	94.7
No Answer	1	2.6
Family Income		
20,000 to 29,999	1	2.6
30,000 to 39,999	1	2.6
40,000 to 49,999	6	15.8
50,000 to 59,999	1	2.6
60,000 to 69,999	5	13.2
70,000 to 79,999	5	13.2
80,000 to 89,999	3	7.9
90,000 to 99,999	3	7.9
100,000 to 149,999	13	34.3
Education Level of Mother		
High School Graduate	8	21.1
Some College (less than 1 year)	4	10.5
1 or more years of college, no degree	4	10.5
Associate's Degree	4	10.5
Bachelor's Degree	10	26.3
Master's Degree	7	18.4
Doctoral Degree	1	2.6
Education Level of Father		
High School Graduate	10	26.3
Some College (less than 1 year)	7	18.4
1 or more years of college, no degree	4	10.5
Associate's Degree	5	13.2
Bachelor's Degree	7	18.4
Master's Degree	4	10.5

Variable	N	Percentage
Doctoral Degree	1	2.6
Ethnicity		
Hispanic or Latino	14	36.8
Not Hispanic or Latino	24	63.2
Racial Identity		
African American	5	13.2
Caucasian	21	55.3
Latino or Hispanic	9	23.7
Other	3	7.9
Completed Stress Inoculation Training	22	57.9
Did not complete Stress Inoculation Training	16	42.1
Total	38	

Chapter IV

Results

Assumptions check. Prior to analyses on research questions one and two, continuous variables within the two groups were assessed for normality of distribution and the assumptions of the regression analysis. The samples were examined to identify present outliers (if any), and the spread of reported personality variables, psychological variables, retention, and GPA scores (high school and final semester GPA). All variables were in the generally accepted z values of +1.96 and -1.96, indicating no outliers were present. The spread was analyzed between the two groups (those who completed SIT and those who did not) and no significant differences were identified, indicating similar spread of psychological and personality variables between the two groups. Additionally, a t-test was conducted on high school GPA scores between the group who completed SIT and the group who did not and this test was not significant. This indicates that scores for high school GPA between the two groups are similar. No significant difference in high school grade point averages indicates both groups entered college-level courses at similar levels.

Myers-Briggs Type Indicator produces four potential letter categories in dichotomous pairs, creating a total of 16 possible choices, and whose scores can often be obtained numerically. The numerical value ranges from zero to 12, with a higher number indicating the individual most identifies with that letter (i.e., Extroversion, Sensing,

Thinking, or Judging). Lower numbers indicate the individual more closely identified

with the opposite of that letter (Introversion, Intuitive, Feeling, or Perceiving). Lower

scores on the first letter, Extroversion, indicates the individual was more likely to

produce a letter of 'I' for Introversion (and higher scores yielded an 'E' for

Extroversion). Individuals who score high on Introversion are more likely to direct their

energy internally (focusing on thoughts and reflections), versus Extroversion where

people are more likely to focus on people and things. Higher scores on the second letter

indicate the individual was more likely to produce a letter of 'S' for Sensing (lower

scores indicate 'N' for Intuitive). The second pattern focuses on how a person may

obtain information, either by focusing on the present, real, and tangible (sensing), or by

going beyond real or concrete with a focus on possibilities in future and examining the

meaning and patterns (intuitive). Higher scores on the third letter indicate the individual

was more likely to produce a letter of 'T' for Thinking (lower scores an 'F' for Feeling).

The third letter pair dichotomy examines how individual may make decisions, either

through logical and impersonal calculations (thinking), or focusing on person-centered

values (feeling). On the fourth letter, higher scores indicate the individual was more

likely to produce a letter of 'J' for Judging (lower scores a 'P' for Perceiving). The

fourth and final dichotomous pair examines how individuals orient in the world, either

through careful planning and organization (Judging) or through spontaneity and

flexibility (perceiving).

A Pearson Product Moment Correlation was conducted examining relationships between all the variables utilized in the research question to identify correlation values and check for multicollinearity. It is important to note the SIT Completed and Enrolled in MS Spring variables were not continuous and were separated into two categories. A point-biserial correlation coefficient was used in this part of the analyses. Coding was completed as follows: a negative number (coded as a '0') indicates the individual completed Stress Inoculation and a positive number (coded as a '1') indicates the individual did not complete SIT. Coding for retention was also the same, with '0' indicating the individual enrolled in the military science program for the spring and '1' indicating the individual did not enroll in the military science program for the spring semester. Pearson product-moment correlation coefficients were calculated to identify relationships between independent and dependent variables to test for multicollinearity. Significant relationships were found between the Physical Fitness Test (PFT) scores and depression, alcohol use, and the MCMI-IV Disclosure variable. A negative relationship was identified, signifying those who reported higher levels of depression ($r = -.456$, $p = .011$) and alcohol use ($r = -.529$, $p = .003$) were more likely to obtain lower PFT scores. Further, individuals who were less likely to disclose personal information on the MCMI-IV ($r = -.366$, $p = .047$) were more likely to obtain higher PFT scores. A significant and positive relationship was found between SAT/ACT scores and Anxiety ($r = .424$, $p = .008$) and PTSD ($r = .411$, $p = .010$); individuals with higher scores on the SAT/ACT assessment were more likely to report higher levels of anxiety and symptoms of PTSD.

High school GPA had a significant, positive relationship with the MBTI 2nd Letter ('S' for Sensing) ($r = .376$, $p = .034$), signifying those who reported higher GPAs in high school were more likely to describe themselves with the criteria of an individual who is Sensing. This indicates those with higher GPAs were more likely to use their senses and focus on the present, real, and tangible (the opposite of Sensing is Intuitive, in which the individual is more likely to go beyond the real or concrete and focus on future possibilities, meaning, and patterns; Vincent et al., 2013). No other variables were found to be significantly related to PFT scores.

A negative correlation between completion of SIT and final GPA ($r = -.453$) was significant at the .01 level, with $p = .004$, indicating that individuals who completed SIT reported higher GPAs at the end of the semester. There was also a significant and negative relationship between those who enrolled in the spring semester and those who completed SIT, $p = .000$ ($r = -.419$), showing those who completed SIT were more likely to enroll in the military science program in the spring semester. Those who completed SIT had higher reported GPAs and were more likely to enroll in the military science program in the spring semester. Significance was also recognized with those who completed SIT and the MBTI 1st letter ($r = .324$, $p = .047$), indicating individuals more likely to describe themselves as Extroverted were more likely to complete SIT. Final GPA had a significant positive relationship with MBTI 1st Letter ($r = -.565$, $p = .000$) and enrollment in the military science program for the spring semester ($r = -.419$, $p = .009$), with no other significant correlations between the variables identified. The MBTI 1st

Letter yielded a significant positive relationship with the MBTI 4th letter ($r = -.444$, $p =$ .005) and no other significance identified between variables, except for those described above. The MBTI 2nd Letter did not indicate any significant correlations when compared between any of the variables analyzed. Significance of the MBTI 3rd Letter was identified between the MBTI 4th Letter ($r = .453$, $p = .004$) and MBTI 1st Letter (as discussed above), indicating those more likely to describe themselves as Thinking were more likely to describe themselves as Judging.

Anxiety was found to have a significant positive relationship with (SAT/ACT scores), depression ($r = .619$, $p = .000$), PTSD ($r = .771$, $p = .000$), and MCMI-IV Disclosure ($r = .791$, $p = .000$). These significant relationships are consistent with the literature (Ginzburg et al., 2010; Meichenbaum, 2012). The depression variable had positive significant relationships with PTSD ($r = .615$, $p = .000$), alcohol use ($r = .468$, $p = .003$), and MCMI-IV Disclosure scores ($r = .749$, $p = .000$), indicating those more likely to report higher rates of depressive symptoms also reported higher rates of PTSD and alcohol use symptoms and were more likely to disclose this type of personal information. Additionally, the variable of PTSD variables had a significant positive relationship with alcohol use ($r = .372$, $p = .021$) and MCMI-IV Disclosure scores ($r = .677$, $p = .000$), meaning those more likely to report symptoms of PTSD were more likely to engage in drinking alcohol excessively, a consistent finding with previous research (Meichenbaum, 2012; Ginzburg et al., 2010; Stanley et al., 2011; Steenkamp & Litz, 2013). MCMI-IV Disclosure rates had significant positive relationships with the above-

listed psychological variables and a significant negative relationship with PFT scores (discussed above). No other significant relationships were identified in the correlation matrix. These correlations can be viewed in Table 2.

Table 2 – Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. PFT Score	-														
2. SAT/ACT Score	-.199	-													
3. High School GPA	-.141	-.041	-												
4. SIT Completed^O	-.256	-.095	-.088	-											
5. Final GPA	.306	.212	.277	-.453**	-										
6. MBTI 1st Letter	-.326	-.251	-.203	.324*	-.565**	-									
7. MBTI 2nd Letter	-.240	.131	.376*	-.153	.119	-.291	-								
8. MBTI 3rd Letter	.245	.175	.175	.065	.112	.210	.211	-							
9. MBTI 4th Letter	.231	.296	-.050	-.133	.279	-.444**	.275	.453**	-						
10. Anxiety	-.288	.424**	.035	-.007	-.086	.083	-.100	.003	-.081	-					
11. Depression	-.456*	.287	.287	.287	.100	-.194	.044	-.270	-.015	.619**	-				
12. PTSD	-.233	.411*	.150	.150	.018	.022	-.062	.114	-.003	.771**	.615**	-			
13. Alcohol Use	-.529*	.094	-.028	-.028	-.124	.209	-.176	-.026	-.164	.202	.468**	.372*	-		
14. MCMI Disclosure	-.366*	.320	.221	.221	.023	.004	.017	-.096	-.020	.791**	.749**	.677**	.307	-	
15. Enrolled in MS Spring^O	.065	-.095	-.033	-.033	-.419**	.190	-.004	.081	-.026	-.102	-.176	-.239	-.105	-.192	-

Note: * p < .05; ** p < .001 ^{O} point-biserial correlation coefficient; Enrolled in MS Spring = Retention

Although variables that are considered fixed variables (i.e., high school GPA, SAT/ACT scores) are important to understand when interpreting data, the researchers chose to focus on factors that can be improved or adjusted. For example, high school GPA is stagnant and unchangeable, as are ACT/SAT scores, family income, and parent education. Factors that may more easily be responsive to intervention after enrollment include personality variables, psychological functioning, and coping skills training in a controlled environment.

Final GPA. Research Question 1 is: Can Stress Inoculation Training predict academic performance above and beyond psychological status (MCMI-IV) and personality variables (MBTI) in freshmen and sophomore cadets enrolled in a military science program? The hierarchical regression revealed that in Model 1, the Myers-Briggs Type Indicator (MBTI) 1st letter, 2nd letter, 3rd letter, and 4th letter contributed significantly to the regression model on final GPA, $F(4, 33) = 3.94$, $p = .01$ and accounted for 32.3% of the variance. It is important to note that in this model, the MBTI 1st letter had a partial significance that directly influenced the overall significance in Model 1. Those more likely to report introversion were more likely to earn a higher GPA. Introducing psychological variables of anxiety, depression, PTSD, and alcohol use scores from the MCMI-IV explained an addition 1.3% of the model in GPA and this change in R^2 was not significant, $F(4, 29) = 1.83$, $p = .11$. The final model, Model 3, introduced the completion of Stress Inoculation Training (SIT) into the model and explained an additional 9% of the model in final GPA with a significant change in R^2

identified, $F(1, 28) = 2.31$, $p = .04$. This indicates SIT predicts GPA above and beyond the personality and psychological/emotional status.

Retention. Research Question 2 is: Can Stress Inoculation Training predict academic retention above and beyond psychological status (MCMI-IV) and personality variables (MBTI) in freshmen and sophomore cadets enrolled in a military science program? The hierarchical regression revealed in Model 1 that the MBTI 1st letter, 2nd letter, 3rd letter, and 4th letter did not provide a significant contribution to the regression model of retention within the military science program, $F(4, 33) = .462$, $p = .763$ and accounted for 5.3% of the variance. The additional contribution of Model 2 examining psychological variables from the MCMI-IV, including anxiety, depression, PTSD, and alcohol use, explained 9.7% of the model and further did not contributes significantly to the model, $F(4, 29) = .638$, $p = .74$. The final model, Model 3, introduced the variable of completion of SIT into the model and explained an additional 27.9% of the model in retention with a significant change in R^2 identified, $F(1, 28) = 2.34$, $p = .04$. Analysis indicates those who were more likely to complete SIT were more likely to enroll in the military science program the spring semester. The results of the regression analyses can be viewed in Table 3.

Table 3 Logistical Hierarchal Regression

	Final GPA					Retention				
	B	SE	β	R^2	ΔR^2	B	SE	β	R^2	ΔR^2
Model 1										
MBTI 1st Letter	-.293	.085	-.561			.045	.038	.232		
MBTI 2nd Letter	-.020	.055	-.054			.005	.024	.035		
MBTI 3rd Letter	-.007	.061	-.019			.016	.027	.116		
MBTI 4th Letter	.020	.066	.054			.002	.029	.015		
				.323**	.323**				.053	.053
Model 2										
MBTI 1st Letter	-.283	.105	-.542			.060	.044	.309		
MBTI 2nd Letter	-.023	.060	-.063			-.002	.025	-.017		
MBTI 3rd Letter	-.009	.082	-.024			.038	.035	.266		
MBTI 4th Letter	.017	.071	.044			-.002	.030	-.017		
Anxiety	-.006	.009	-.182			.001	.004	.089		
Depression	.001	.013	.022			.004	.006	.233		
PTSD	.006	.010	.175			-.006	.004	-.440		
Alcohol Use	-.002	.008	-.054			-.002	.003	-.132		
				.336	.013				.150	.097
Model 3										
MBTI 1st Letter	-.237	.102	-.452			.029	.038	.151		
MBTI 2nd Letter	-.029	.057	-.081			.002	.021	.014		
MBTI 3rd Letter	.012	.078	.031			.024	.029	.171		
MBTI 4th Letter	.014	.068	.037			-.001	.025	-.005		
Anxiety	-.006	.008	-.181			.001	.003	.089		
Depression	.001	.013	.018			.004	.005	.241		
PTSD	.005	.009	.132			-.005	.003	-.364		
Alcohol Use	.002	.007	.060			-.004	.003	-.332		
Complete SIT	-.785	.375	-.340			.515	.139	.598		
				.426	.090*				.245	.279*

$* p < .05; ** p < .01$

Chapter V

Discussion

The current study was designed to examine two primary research questions and provide insight for practitioners in understanding how stress management training may influence the academic progress of military science minors (potential future active duty officers in the military). The two research questions included: 1) Can Stress Inoculation Training predict academic performance above and beyond psychological status (MCMI-IV) and personality variables (MBTI) in freshmen and sophomore cadets enrolled in a military science program? and 2) Can Stress Inoculation Training predict academic retention above and beyond psychological status (MCMI-IV) and personality variables (MBTI) in freshmen and sophomore cadets enrolled in a military science program? Results indicate a significant amount of variance in both cumulative GPA and retention of military science minors, indicating participation in Stress Inoculation Training (SIT) can predict above and beyond personality variables and psychological/emotional status. Any caveats to accepting this hypothesis will be explained further in the discussion.

GPA. The first model assessed the effect of personality variables, psychological variables, and completion of SIT on academic performance for the fall semester. Aside from the extroversion/introversion factor (first letter of the MBTI), no significant differences were identified in personality and its effects on final GPA for freshmen and sophomores enrolled in the military science program. Model 1 accounted for

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significant portion of the variance, predicting 23.3% of the variance on GPA. Overall, individuals who had higher scores for introversion accounted for a significant amount of the variance within the analysis of variables targeted, final GPA. SIT accounted for a significant portion of the variance (an additional 9% from Model 1, which predicted 32.3%), indicating a strong, positive influence on GPA. Bates et al. (2010) addressed key interactions and its impact on stress management, suggesting resources and demands must continuously be monitored, replenishing any resources as necessary to address insufficient environmental demands. As part of the SIT model, the sample population for which this study was conducted frequently assessed resources. At times when cadets stated support was not felt (through self-report), emotion-focused and problem-focused strategies were deployed, with careful analysis and iteration of ways to obtain and build support as necessary. This study contributes to the growing body of research that teaching stress management skills explicitly may increase performance of an individual (McHugh & Wenger, 2009; Hourani et al., 2011; Maddi, 2007; Morgan & Bibb, 2011; Serino et al., 2014; Taverniers, Van Ruysseveldt, Smeets, & Von Grumbkow, 2010; Taylor et al., 2009; Taylor et al., 2011). Designed to build emotion-focused coping skills, SIT has demonstrated to have in an increase in stress management abilities for this population.

Retention. The second research question examined the effect of the same independent variables (personality variables, psychological variables, and completion of

SIT) on the dependent variable of retention within the military science program. This analysis identified a significant positive relationship between those who completed SIT and those who were likely to continue with enrollment into military science classes in the second semester. Individuals who earned higher GPAs were more likely to enroll in the spring semester for military science classes. Of the models analyzed on retention, SIT was the significant variable, accounting for 27.9% of the variance for those who enrolled in the spring semester. Additionally, a significant portion of those who participated in SIT enrolled in MS classes in the spring semester (72.4%), whereas only 27.6% of those who did not complete SIT enrolled in the spring semester. Personality and psychological variables did not produce significant results on the overall sample and no partial correlations were identified. This indicates that, of the variables examined for predicting variance on continued enrollment, completion of training in stress management was the only identifiable significant variable in the model. Examination of the relationships between the variables indicated the two dependent variables (final GPA and retention) had a significant positive relationship as well. This study supports the research that teaching stress management skills is an effective intervention, increasing the likelihood of continuation in a military science program and increased academic performance (Boyd et al., 2009; Britt & Bleise, 2003; Hobfoll, 2001; Kavanagh, 2005; Meichenbaum, 2007; Robson & Manacapilli, 2014; Taylor et al., 2009).

Implications. Poor stress management can significantly impair academic performance and persistence. Individuals with positive coping skills and effective stress

management techniques are more likely to have increased academic performance (Akgun & Ciarrochi, 2003; Boyd et al., 2009; Chemers, Hu, & Garcia, 2001; Largo-Wight, Peterson, & Chen, 2005; Macan, Shahani, Dipboye, & Phillips, 1990; Pritchard & Wilson, 2003; Robbins, Oh, Le, & Button, 2009). This study contributes to the growing body of research supporting the importance of positive stress management skills to assist with academic performance and retention. Primary details include a focus on managing emotions, assessing current resources, and teaching skills that can be individualized to the specific individual. A variety of coping skills are available, however, some participants did not identify every skill as useful. A careful analysis and employment of these practices are crucial in SIT sessions, as well as rapport building, as it provides the individual a sense of comfort, and the ability to practice those specific techniques in which he or she may find useful.

Largo-Wight et al. (2005) identified problem-solving stress management to be more useful and a stronger predictor of self-reported health status than physical activity and alcohol consumption behaviors. This study indicates individuals who understand and can effectively problem-solve may be more likely to mitigate the negative effects of alcohol consumption and low levels of physical exercise. Further implications include the effects stress management has on salient psychological variables include anxiety, depression, PTSD, and alcohol consumption (i.e., common psychological concerns in young adults). Contributing to a growing body of research, support in stress management skills are more likely to reduce reported psychopathology. Results indicate the provision

of specific techniques on stress management, through the Stress Inoculation Training model, are designed to assist with emotion-focused and problem-focused issues (Boyd et al., 2009; Britt & Bleise, 2003; Hobfoll, 2001; Kavanagh, 2005; Meichenbaum, 2007; Robson & Manacapilli, 2014; Taylor et al., 2009).

Although not unique to military populations alone, the military population is at greater risk for exposure to trauma, increasing the likelihood of developing PTSD and other stress-related mental disorders (Nash, Silva, & Litz, 2009). Culturally, the military population has lower tolerances for physical, mental, and moral weaknesses. In the culture of the United States, mental health problems are considered to make a person weaker mentally and others may judge those with reported diagnoses as less capable of effectively performing in the workplace (Britt, Green-Shortridge, Britt, & Castro, 2007; Nash et al., 2009; Vogt, 2011). SIT has the opportunity to infuse mental health services prior to starting careers in the military, as it is designed to focus on emotion-focused coping skills in young adulthood. A long-term implication of this study examines how group and individual therapy, training on stress management, and a location in which cadets may confide stressors and struggles can have significantly drastic effects on stigmas in the military for mental health and treatment. The effects of SIT may include breaking down the negative stigma associated with mental health and mental treatment. Military personnel who view mental health concerns in a more positive light may be more likely to refer others to mental health professionals, increasing the chances that others receive timely care and services necessary to increase positive mental health.

Although this may not reduce the risk factor of developing PTSD or other comorbid mental health disorders (alcohol/drug use, depression, anxiety), it has the potential long-term impact of reducing suicide rates and increasing treatment outcomes for those who receive care.

Previous studies have indicated academic performance, length of time served as active duty in the military, and performance on the APFT are significant predictors of retention within ROTC programs (Advanced Management Program, 2004; Fischer, 2015; Kelly et al., 2014; Mattock et al., 2014). Examining SIT's impact on cadets in a military science program contributes to a new and growing pathway to examine retention rates, as those most likely to complete SIT were more likely to continue enrollment within the military science program (Kelly et al., 2014; Robson & Manacapilli, 2014). At present, no short-term indicators have been identified as effective in predicting retention rates within ROTC programs across the United States (Advanced Management Program, 2004). Analysis of the present study supports a growing body of research indicating short-term predictors and person-centered variables may be potential avenues of examination on retention (Kelly et al., 2014).

Contribution of understanding personality variables in those who select a military career path continue to be unclear from this study. No significant patterns of psychological variables have been identified in the existing body of research (Bates et al., 2010; Campbell et al., 2010; Kelly et al., 2014; Stowers & Thompson, 2011). A potentially emerging profile, using MBTI personality profiles, indicates predominantly

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ISTJ from the sample study (23.7%). Further, individuals with the ISTJ profile were more likely to complete SIT (27.4%) and had higher rates of enrollment in the spring semester (31%) compared to any other four-letter profile. Other common MBTI personality profile types included ENTJ (15.8%) and ESTJ (15.8%). These profile types were also more likely to complete the SIT (13.6%) and enroll in military science courses for the spring semester (13.8%). An approximately even number of individuals identified with introverted (drawing their energy from thoughts and reflections; N = 18; 52.6%)) and extroverted characteristics (N = 18; 47.3%). Further research and examination of profile patterns for those in ROTC may lead to an increased understanding in those who are more likely to succeed in the military lifestyle. Treatment implications of understanding personality variable may inform career and vocational researchers and expand on existing knowledge. Appendix D provides the complete examination of MBTI profiles.

Limitations. This section will address the limitations of the study and recommend potential avenues for future research. First, it is important to recognize that Stress Inoculation Training may provide greater benefit when the entirety of the intended population participates. Thirty-eight of the 60 (63%) students identified as a freshman or sophomore within the military science program participated. Of the 38 who completed the initial survey packet, 22 (57.9%) completed the entire training. Future researchers may seek to engage in strategic recruitment that includes establishing relationships with

more than one faculty member within the military science program to increase

enrollment. Feedback from the evaluations support this statement, as a comment was

made to increase group size and increase anonymity (see Appendix E for qualitative

analyses and feedback).

Another limitation is related to data collection procedures. E-mails were collected

upon introducing the program to cadets and at the time of survey completion, but phone

numbers for contact were not collected until participants arrived at their first session. It is

recommended for future semesters and trainings that a separate document be circulated

that provides participants the opportunity to provide e-mails and phone numbers, to

increase ease of contact and reduce communication barriers.

Another limitation to consider is potential funding concerns. Departments

(military science and human services) within this university were open and willing to

provide these services to students free of charge while throughout the year, the primary

researcher and committee searched for, selected, and applied for grants to supplement

funding. However, it is recommended future studies secure funding for long-term status

prior to implementation of services. An additional limitation included time spent

collecting data. At present, data collection and analysis for this study examined one

semester of grade point averages, retention rates, and overall reported feedback. Future

analyses and studies should collect more long-term and aggregated data.

A potential underlying reason as to the difference in participation in SIT and

academic performance between the two groups may contain motivational factors. It is

recommended motivation be examined and controlled for in future studies. Findings

from an increasing number of empirical research studies indicate self-determination

theory, parenting practices, and self-efficacy may have an influence on academic

performance for college students (Cheng & Ickes, 2009; Kusurkar, Ten Cate, Vos,

Westers, & Croiset, 2013; Richardson & Abraham, 2009; Turner, Chandler, & Heffer,

2009). Fischer (2015) states motivational climates have a dichotomous impact on

individuals participating in ROTC, particularly with physical training. Conversely,

motivation has also been found to be associated with some of the psychological

emotional variables, which were examined (i.e., anxiety and depression; Owens,

Stevenson, & Hadwin, 2012; Sharma & Wavare, 2013; Sideridis, 2005). For example,

studies have identified those with lower levels of depression were more likely to be

motivated and obtain higher performance scores (Sideridis, 2005). Given that no

significant differences were found between the participant and non-participant groups in

these variables, may indicate anxiety and depression were significant factors with this

sample population. However, the inclusion of a more direct 'measure' of motivation may

be warranted to test this hypothesis.

Future Research. It is recommended that future studies include a significantly

larger number of ROTC cadets. Twenty-two individuals completed SIT, 38 individuals

total completed consent forms, and an anticipated enrollment was approximately 60

individuals, both freshmen and sophomore classifications. Mandatory stress management

training is counterintuitive, though, so frequent and high levels of encouragement and

reinforcement may increase participation in stress management. However, a caveat to this is it is difficult to encourage and incentivize individuals to complete training on emotion-focused coping strategies when an individual does not believe anything is wrong with him or her or that the service would not be beneficial.

Additionally, research may see a significant benefit by including students throughout the program, from freshmen to seniors. The target of this study (freshmen and sophomores) was developed to determine the effectiveness SIT had on retention, as the dropout rates were highest in the initial years of college enrollment for military science minors. However, given the effectiveness of positive stress management skills, it is likely individuals in other years of program (juniors and seniors) may benefit significantly as well from learning and practicing coping skills in a controlled environment. It is advised that this continue to be a studied area, as it is currently unclear the directional pathway of this significance (i.e., does the completion of SIT influence likelihood of retention and academic performance, or does retention and academic performance influence likelihood of completing SIT). Future studies may address the directional pathway of this relationship.

It is recommended these areas be studied further to determine if it is a sample difference or if this population is simply undeterred by the psychological variables assessed in this study, which may addressed with a larger sample size. It is important to note that negative relationships were identified between physical fitness scores (APFT) and alcohol use and depression; however, no other psychological variables were

identified as impactful, particularly on the dependent variables. The negative relationship identified between two psychological variables (alcohol use and depression) and APFT may warrant future analysis on physical fitness to contribute to existing research. Campbell et al. (2010) posed the idea that specific personality types may be necessary to continued and engaged participation within the military lifestyle. Limited studies have examined personality characteristics, traits, and its impact on the likelihood of joining the military. This study contributes to the growing body of research by providing potential insight on factors related to academic performance of ROTC cadets. Individuals in this sample reporting higher levels of introversion were more likely to obtain higher grade point averages at the end of the semester. However, no significant factors were identified when examining personality variables in those most likely to enroll for military science classes in the spring semester. Further analysis on personality of students in this sample between the two groups had a similar spread of personality variables, when assessed through the Myers-Briggs Type Indicator.

An important component to examine the overall effectiveness of SIT would include a long-term analysis on how it has affected ROTC cadets as they complete their degree of study and their transition into the civilian job market or select military careers. Multiple avenues of analysis should be considered when examining long-term data. Initially, long-term data may include identifying how likely are participants to maintain high GPAs and continue enrollment in the military science, 12 months from date of entry. Additionally, comparison studies between the first group of participants and the

subsequent following groups may provide greater insight into service-seeking behaviors, academic stress, and interest in participation within the military science program. Subsequent reporting of this data may include 24-month, 36-month, and 48-month comparisons, analyzing the retention rates of those who participated in SIT at its inception to those who delayed participation until a later point in time. Meichenbaum (2007) has identified an earlier inception in training may increase the likelihood of positive stress and coping skills.

  Conclusion. The overall purpose of this study was to examine how personality variables, psychological variables, and training of emotion-focused coping skills (using Stress Inoculation Training) affected grade point average in the fall semester and enrollment in the military science program at a university in the southern United States. Approximately 40% of officers serving as active duty in the military join from ROTC programs attended in college (U. S. Army Cadet Command, 2016). Understudied and under-evaluated, ROTC cadets' stress management techniques are likely to assist in determining potential career outcomes, either through civilian or military career selection. Findings demonstrate the significance of engaging in positive stress management coping skills, as individuals with higher grade point averages were more likely to have completed SIT as well as enroll in military science classes in the spring semester of an academic year. It is important to note that the sample size of this population was small and motivational levels between the identified groups were not assessed, and may play a significant role in determining GPA as well as completion of stress management training.

Future research may examine this interplay of motivation as well as the longer-term effects SIT may have on academic performance and retention in military science, potential decision to serve as active duty in the military, and any potential mitigation of abnormal psychopathological variables. This study contributes to a growing body of research on teaching emotion-focused coping skills to military personnel and/or individuals who intend to join the military (i.e., ROTC cadets), in an effort to build positive stress management techniques and reduce potential routes of abnormal psychopathology in the future. Positive coping skills can often counteract stressful situations and this study adds to the growing research on this population, with an earlier inception period and the opportunity to examine growth as cadet's transition into active duty service or enter the civilian workforce with the intention of a reduction in reported psychopathological concerns.

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Appendix A

STEPHEN F. AUSTIN STATE UNIVERSITY

Institutional Review Board for the Protection of Human Subjects in Research
P.O. Box 13018, SFA Station • Nacogdoches, Texas 75962-3046
Phone (936) 468-5496 • Fax (936) 468-1573

TO: Robbie Steward & Ashley Doss
        Human Services
        PO Box 13019
        Nacogdoches, TX 75962

RE: Project Title: Stress Inoculation Training in ROTC Cadets
        Case # AY2018-1003

TYPE OF RESEARCH: Project Type: Dissertation

FROM: Pauline M. Sampson, Chair, IRB-H

DATE: November 1, 2017

I would like to thank you for submitting your modification to your project entitled "Stress Inoculation Training in ROTC Cadets" to the IRB for review. It has been reviewed and has been **Approved**, based on the following review criteria:

> CFR §46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Your project has approval through **July 13, 2018**, should you need additional time to complete the study you will need to apply for an extension prior to that date. The IRB should be notified of any planned changes in the procedures during the approval period, as additional review will be required by the IRB, prior to implementing any changes, except when changes are necessary to eliminate immediate hazards to the research participants. The researcher is also responsible for promptly notifying the IRB of any unanticipated or adverse events involving risk or harm to participants or others as a result of the research.

All future correspondence regarding this project should include the case number **AY 2018-1003.**

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Consent Form

STUDY PURPOSE

   You are being asked to participate in a study that examines how stress inoculation training impacts cadets within an ROTC program. This study will ask questions that examine the previous grades, SAT/ACT scores, personality types (based on the Myers-Brigg Type Indicator), psychopathological profiles (based on the Multi-Axial Clinical Millon Inventory – 4th Edition), and demographics information. Individuals participating in this survey must be enrolled in the SFASU ROTC program and be identified as either a freshman or sophomore in undergraduate studies.

PROCEDURE

   You will sit down with a clinician and complete a demographics survey, a personality indicator, and a psychological/emotional status inventory. You will complete a Doodle time slot to select the best available times that fit your schedule and will be assigned in a group based on availability. Groups will consist of 6-8 people. The initial assessment is estimated to take approximately one hour in which Stress Inoculation Training will occur with a clinician and a practicum student. Four sessions throughout the semester will be in 1-hour time blocks. You may ask any questions if you do not understand the material. Participation is completely voluntary and if at any time you feel uncomfortable you may cease answering the questions.

RISKS AND BENEFITS

   Potential risks may include psychological harm, particularly anxiety. Participants will be asked about their personality characteristics and identify underlying psychological/emotional status. If you experience any psychological harm or anxiety beyond the counseling benefits provided to you through participating in the program, you may contact the Counseling Clinic at the Human Services Department at (936) 468- 1041 or the Counseling Center, located in the Rusk building at (936) 468-2401. All sessions occurring within the Counseling Clinic are recorded for training purposes only. A secondary Informed Consent will be provided to you, explaining the purposes of the training clinic. Benefits may include the participation will add to information about ROTC cadets, and the added benefit of cadets managing stress better in their daily lives. This study will examine how Stress Inoculation Training, personality, and psychological/emotional status contribute to ROTC cadet success, so all data and information collected may contribute to greater understanding of the military population.

VOLUNTARY PARTICIPATION

   All participation is voluntary and the participant may withdraw at any time without penalty. You will not lose any benefits to which you are otherwise entitled nor will you be penalized. If you have any questions that are not answered in this form, the researcher will be happy to give you more information.

CONFIDENTIALITY

   All data collected will be coded. No major identifying information will be collected and all personal information will be collected and locked in a secure cabinet within the confines of the office of the primary researcher at Stephen F. Austin State University in Nacogdoches, Texas. No information will be given to ROTC's command. No individual reports will be provided to you or military science personnel. Participants may have access to group results upon request. If at any time the researcher needs to forego confidentiality, you as the participant will be notified. These circumstances may include situations if you threaten or state you intend on causing harm to yourself or others.

COMPENSATION AND RESULTS

   No compensation will be provided. All results of the study will be available to participants upon

request.
CONTACT INFORMATION
        If you have any questions you can contact Ashley Doss at 936-707-5764 by phone or through e-mail at dossan2@jacks.sfasu.edu or Dr. Robbie Steward at stewardrj@sfasu.edu. Please feel free to ask any questions you may have before signing this form.

SIGNATURE AND ACKNOWLEDGMENT
        My signature below indicates that I have read the above information and I have had a chance to ask questions to help me understand what my participation will involve. I agree to participate in the study until I decide otherwise. I acknowledge having received a copy of this agreement and a copy of the Subject's Bill of Rights. I have been told that by signing this consent form I am not giving up any of my legal rights.

SIGNATURE OF PARTICIPANT _____
        DATE_____

SIGNATURE OF WITNESS_____
        DATE_____

SIGNATURE OF RESEARCHER_____
        DATE_____

Appendix B

1. Gender: What is your sex?
   a. Male
   b. Female
	5. What is your age?
	   _____

2. What is your spouse's age?
   _____
 	
   ___N/A
	6. Marital Status: What is your marital status?
	   a. Now Married
	   b. Widowed
	   c. Divorced
	   d. Separated
	   e. Never married

3. What is your family of origin's annual income (the family unit in which you spent most of your life)?
   f. Less than $19,999
   g. $20,000 to $29,999
   h. $30,000 to $39,999
   i. $40,000 to $49,999
   j. $50,000 to $59,999
   k. $60,000 to $69,999
   l. $70,000 to $79,999
   m. $80,000 to $89,999
   n. $90,000 to $99,999
   o. $100,000 to $149,999
   p. $150,000 or more
	7. Education level of mother: What is the highest degree or level of school your mother completed?
	   a. High school graduate – high school diploma or equivalent (for example: GED)
	   b. Some college credit, but less than 1 year
	   c. 1 or more years of college, no degree
	   d. Associate's degree
	   e. Bachelor's degree
	   f. Master's degree
	   g. Doctoral degree

8. Education level of father: What is the highest degree or level of school your father completed?
   a. High school graduate – high school diploma or equivalent (for example: GED)
   b. Some college credit, but less than 1 year
   c. 1 or more years of college, no degree
   d. Associate's degree
	9. Ethnicity: Please specify your ethnicity
	   a. Hispanic or Latino
	   b. Not Hispanic or Latino

e. Bachelor's degree f. Master's degree g. Doctoral degree	
10. What is your city of origin (the city in which you resided prior to enrollment in SFASU)? City:_____	11. Racial Identity: With which racial or ethnic group(s) do you *most* identify (Mark more than one if applicable). a. African-American (non-Hispanic) b. Asian/Pacific Islander c. Caucasian (Non-Hispanic) d. Latino or Hispanic e. Native American, Aleut, or Aboriginal Peoples f. Other _____
12. Army Physical Fitness Test (APFT) Score: a. _____ 13. SAT/ACT Score: _____	14. Cumulative High school GPA: _____ 15. Year in the ROTC program: a. 1st year b. 2nd year 16. Year at SFA: a. Freshman b. Sophomore c. Junior d. Senior (Reason these were not noted?)

MBTI Personality Type Test		
1. At a party do you:	a. Interact with many, including strangers	b. Interact with few, only those known to you
2. Are you more:	a. Realistic than speculative	b. Speculative than realistic
3. Is it worse to:	a. Have your "head in the clouds"	b. Be "in a rut"
4. Are you more impressed by:	a. Principles	b. Emotions
5. Are you more drawn toward the:	a. Convincing	b. Touching
6. Do you prefer to work:	a. To deadlines	b. Just 'whenever'
7. Do you tend to choose:	a. Rather carefully	b. Somewhat impulsively
8. At parties, do you:	a. Stay late, with increasing energy	b. Leave early with decreased energy
9. Are you more attracted to:	a. Sensible people	b. Imaginative people
10. Are you more interested in:	a. What is actual	b. What is possible
11. In judging others, are you more swayed by:	a. Laws than circumstances	b. Circumstances than laws
12. In approaching others, is your inclination to be somewhat:	a. Objective	b. Personal
13. Are you more:	a. Punctual	b. Leisurely
14. Does it bother you more having things:	a. Incomplete	b. Completed
15. In your social groups do you:	a. Keep abreast of other's things happening	b. Get behind on the news
16. In doing ordinary things, are you more likely to:	a. Do it the usual way	b. Do it your own way
17. Writers should:	a. "Say what they mean and mean what they say"	b. Express things more by use of analogy
18. Which appeals to you more:	a. Consistency of thought	b. Harmonious human relationships
19. Are you more comfortable in making:	a. Logical judgments	b. Value judgment
20. Do you want things:	a. Settled and decide	b. Unsettled and undecided
21. Would you say you are more:	a. Serious and determined	b. Easy-going
22. In phoning, do you:	a. Rarely question what all that will be said	b. Rehearse what you'll say
23. Facts:	a. "Speak for themselves"	b. Illustrate principles
24. Are visionaries:	a. Somewhat annoying	b. Rather fascinating

25. Are you more often:	a. A cool-headed person	b. A warm-hearted person
26. Is it worse to be:	a. Unjust	b. Merciless
27. Should one usually let events occur:	a. By careful selection and choice	b. Randomly and by chance
28. Do you feel better about:	a. Having purchased	b. Having the option to buy
29. In company, do you:	a. Initiate conversation	b. Wait to be approached
30. Common sense is:	a. Rarely questionable	b. Frequently questionable
31. Children often do not:	a. Make themselves useful enough	b. Exercise their fantasy enough
32. IN making decisions, do you feel more comfortable with:	a. Standards	b. feelings
33. Are you more:	a. Firm than gentle	b. Gentle than firm
34. Which is more admirable:	a. The ability to organize and be methodical	b. The ability to adapt and make do
35. Do you put more value on:	a. Infinite	b. Open-minded
36. Does new and non-routine interaction with others:	a. Stimulate and energize you	b. Tax your reserves
37. Are you more frequently:	a. A practical sort of person	b. A fanciful sort of person
38. Are you more likely to:	a. See how others are useful	b. See how others see
39. Which is more satisfying:	a. To discuss an issue thoroughly	b. To arrive at an agreement on an issue
40. Which rules you more:	a. Your head	b. Your heart
41. Are you more comfortable with work that is	a. Contracted	b. Done on a casual basis
42. Do you tend to look for:	a. The orderly	b. Whatever turns up
43. DO you prefer:	a. Many friends with brief contact	b. A few friends with more lengthy contact
44. Do you go more by	a. Facts	b. Principles
45. Are you more interested in:	a. Production and distribution	b. Design and research
46. Which is more of a compliment:	a. "There is a very logical person."	b. "There is a very sentimental person."
47. Do you value in yourself more that you are:	a. Unwavering	b. Devoted
48. Do you more often prefer the:	a. Final and unalterable statement	b. Tentative and preliminary statement
49. Are you more comfortable:	a. After a decision	b. Before a decision
50. Do you:	a. Speak easily and at length with strangers	b. Find little to say to strangers
51. Are you more likely to trust your	a. Experience	b. Hunch

52. Do you feel:	a. More practical than ingenious	b. More ingenious than practical
53. Which person is more to be complimented – one of:	a. Clear reason	b. Strong feeling
54. Are you inclined more to be:	a. Fair-minded	b. Sympathetic
55. Is it preferable mostly to:	a. Make sure things are arranged	b. Just let things happen
56. In relationships, should most things be:	a. Re-negotiable	b. Random and circumstantial
57. When the phone rings, do you:	a. Hasten to get to it first	b. Hope someone else will answer
58. Do you prize more in yourself:	a. A strong sense of reality	b. A vivid imagination
59. Are you draw more to:	a. Fundamentals	b. Overtones
60. Which seems the greater error:	a. To be too passionate	b. To be too objective
61. Do you see yourself as basically:	a. Hard-headed	b. Soft-hearted
62. Which situation appeals to you more:	a. The structured and scheduled	b. The unstructured and unscheduled
63. Are you a person that is more:	a. Routinized than whimsical	b. Whimsical than routinized
64. Are you more inclined to be:	a. Easy to approach	b. Somewhat reserved
65. In writings, do you prefer:	a. The more literal	b. The more figurative
66. Is it harder for you to:	a. Identify with others	b. Utilize others
67. Which do you wish more for yourself	a. Clarity of reason	b. Strength of compassion
68. Which is the greater fault:	a. Being indiscriminate	b. Being critical
69. Do you prefer the:	a. Planned event	b. Unplanned event
70. Do you tend to be more:	a. Deliberate than Spontaneous	b. Spontaneous than deliberate

Answer Sheet

Enter a check for each answer in the column for A or B

	A	B		A	B		A	B		A	B		A	B		A	B		A	B
1			2			3			4			5			6			7		
8			9			10			11			12			13			14		
15			16			17			18			19			20			21		
22			23			24			25			26			27			28		
29			30			31			32			33			34			35		
36			37			38			39			40			41			42		
43			44			45			46			47			48			49		
50			51			52			53			54			55			56		
57			58			59			60			61			62			63		
64			65			66			67			68			69			70		

| 1 | | 2 3 | | 4 3 | | 4 5 | | 6 5 | | 6 7 | | 8 7 | | 8 |

→   →   →

| 1 | | 2 | 3 | | 4 | 5 | | 6 | 7 | | 8 |
| E | | I | S | | N | T | | F | J | | P |

Millon Clinical Multiaxial Inventory – IV
This inventory contains a list of statements that can be used to describe a person's feelings and attitudes. Read each statement carefully and answer it as truthfully as you can as the results of this inventory are designed to help you. Do not be concerned if a few of the statements seem unusual; they are included to describe the feelings and attitudes of people with many types of problems.

If you agree with a statement or decide that it describes you, choose "True." If you disagree with a statement or decide that it does not describe you, choose "False." Try to answer every statement, even if you are not sure of your choice. If you have tried your best and still cannot decide, choose "False."

There is no time limit for completing the inventory, but it is best to work as quickly as is comfortable.   <u>True</u>
<u>False</u>

1. Lately my strength seem to be draining out of me, even in the morning.	T	F
2. I always make sure that my work is well planned and organized.	T	F
3. I enjoy doing so many different things that I can't make up my mind on what to do first.	T	F
4. I'm concerned that people I depend on will leave me.	T	F
5. Although I'm afraid to make friendships, I wish I had more than I do.	T	F
6. What few feelings I seem to have, I rarely show to the outside world.	T	F
7. I have a hard time keeping my balance when walking.	T	F
8. I'm always looking for opportunities that are exciting and new for me.	T	F
9. Sometimes I can be pretty rough and mean in my relations with my family.	T	F
10. I like being the center of attention	T	F
11. As a teenager, I got into lots of trouble because of bad school behavior.	T	F
12. I'm afraid to get really close to another person because it may end up with my being ridiculed or shamed	T	F
13. I can tell that people are talking about me when I pass by them.	T	F
14. I began to feel like a failure some years ago	T	F
15. When I have a choice, I prefer to do things alone	T	F
16. Lately, I have begun to feel like smashing things	T	F
17. Things that are going well today won't last very long.	T	F

18. I sometimes feel crazy-like or unreal when things start to go badly in my life.	T	F
19. I do what I want without worrying about its effect on others.	T	F
20. I approach my daily activities with lots of energy and persistence	T	F
21. I never forgive an insult or forget an embarrassment someone has caused me.	T	F
22. I feel terribly depressed and sad much of the time now.	T	F
23. I tend to always blame myself when things go wrong.	T	F
24. A long time ago, I decided it's best to have little to do with people	T	F
25. I have an alcohol problem that has made difficulties for me and my family.	T	F
26. I'm a very socially inhibited and shy person	T	F
27. There are many times when, for no reason, I feel very cheerful and full of excitement.	T	F
28. In recent weeks, I feel worn out for no special reason.	T	F
29. My time is more valuable than others'.	T	F
30. I am always looking to make new friends and meet new people	T	F
31. I've become very jumpy in the last few weeks.	T	F
32. I just haven't had the luck in life that others have had.	T	F
33. Ideas keep turning over and over in my mind and they won't go away.	T	F
34. I've become quite discouraged and sad about life in the past year or two.	T	F
35. I try to make everything I do as perfect as possible.	T	F
36. My habit of abusing drugs has caused me to miss work in the past.	T	F
37. My moods seem to change a great deal from one day to the next.	T	F
38. I use my charm to get my way.	T	F
39. I often think that I don't deserve the good things that happen to me.	T	F
40. I can't seem to sleep and wake up just as tired as when I went to bed.	T	F
41. I often let others make important decisions for me.	T	F
42. Nothing much that happens seems to make me either sad or happy.	T	F
43. I keep having strange thoughts that I wish I could get rid of.	T	F

44. I have a great deal of trouble trying to control an impulse to drink in excess.	T	F
45. I make friends much more easily than most people I know.	T	F
46. I am ashamed of some of the abuses I suffered when I was young.	T	F
47. I think highly of rules because they are a good guide to follow.	T	F
48. I was on the front cover of several magazines last year.	T	F
49. I often get angry with people who do things slowly.	T	F
50. I spend my life worrying over one thing or another.	T	F
51. I always wonder what the real reason is when someone is acting especially nice to me.	T	F
52. I'm animated and inspired by my daily activities.	T	F
53. I have many ideas that are ahead of the times.	T	F
54. I can no longer concentrate on anything since I experienced serious concussions.	T	F
55. People have said in the past that I became too interested and too excited about too many things.	T	F
56. I have completely lost my appetite and have trouble sleeping most nights.	T	F
57. Ever since I was a child, I Have been losing touch with the real world.	T	F
58. I can't experience much pleasure because I don't feel I deserve it.	T	F
59. I prefer being told what to do rather than having to decide for myself.	T	F
60. My use of so-called "illegal" drugs has led to family arguments	T	F
61. The memory of a very upsetting experience in the my past keeps coming back to haunt my thoughts.	T	F
62. I'm considered by most to be a prudent and careful person.	T	F
63. I seem to have lost interest in most things that I used to find pleasurable, such as sex.	T	F
64. I've gotten into trouble with the law a couple of times.	T	F
65. I have had to be really rough with some people to keep them in line.	T	F
66. I am very confident.	T	F
67. People are trying to make me believe that I am going crazy.	T	F
68. I go on eating binges a couple times a week.	T	F
69. I frequently feel there's nothing inside me, like I'm hollow and empty.	T	F

70. I've always had a hard time stopping myself from feeling blue and unhappy.	T	F	
71. When I'm alone and away from home, I often begin to feel tense and panicky.	T	F	
72. People tell me that I'm a very proper and moral person.	T	F	
73. I have difficulty controlling my anger.	T	F	
74. I'm a very optimistic person.	T	F	
75. Years later, I still have nightmares about an event that was a real threat to my life.	T	F	
76. I seem to need a lot of advice to get things done.	T	F	
77. Sneaky people try to get credit for things I've done or thought of.	T	F	
78. Lately, I've gone all to pieces.	T	F	
79. Taking so-called "illegal" drugs may be unwise, but in the past I've found I needed them.	T	F	
80. I'm a very erratic person, changing my mind and feelings all the time.	T	F	
81. I'm very good at making up excuses when I get into trouble.	T	F	
82. I never sit on the sidelines when I'm at a party.	T	F	
83. I seem to make a mess of good opportunities that come my way.	T	F	
84. I sometimes force myself to vomit after eating.	T	F	
85. I'm a special person, so I don't care what others think.	T	F	
86. I watch my family closely so I'll know who can and can't be trusted.	T	F	
87. There are certain thoughts that keep coming back again and again in my mind.	T	F	
88. Few things in life give me pleasure.	T	F	
89. I feel shaky and have difficulty falling asleep because painful memories of a past event keep running through my mind.	T	F	
90. I often get lost in my thoughts and forget what's going on around me.	T	F	
91. I've never been able to shake the feeling that I'm worthless to others.	T	F	
92. I have a drinking problem that I've tried unsuccessfully to end.	T	F	
93. Someone has been trying to control my mind.	T	F	
94. Most successful people have either been lucky or dishonest.	T	F	
95. I often make people angry by bossing them.	T	F	
96. I have not seen a car in the last 10 years.	T	F	
97. I always feel self-conscious and tense at social gatherings.	T	F	

98. I seem to create situations in which I get hurt or feel rejected.	T	F
99. I feel deeply depressed for no reason I can figure out.	T	F
100. People say I'm a thin person, but I feel that my thighs and backside are much too big.	T	F
101. I often enjoy starting an argument or fight.	T	F
102. I take great care to keep my life private so no one can take advantage of me.	T	F
103. My drug habits have often gotten me into a good deal of trouble in the past.	T	F
104. I often get blamed for things I am not responsible for.	T	F
105. Looking ahead as each day begins makes me feel terribly depressed.	T	F
106. People sometimes get annoyed with me because they say I talk too much or too fast for them.	T	F
107. I could never handle the world on my own.	T	F
108. My brain just hasn't functioned properly since injuries it received in recent years.	T	F
109. I feel lonely and empty most of the time.	T	F
110. People make fun of me behind my back.	T	F
111. Lately, I've been sweating a great deal and feel very tense.	T	F
112. In recent weeks, my mood has become increasingly sad.	T	F
113. I blow up angrily very fast at people who bother me.	T	F
114. There are times when I couldn't get through the day without some street drugs.	T	F
115. I like to flirt a lot.	T	F
116. I don't have the energy to concentrate on my everyday responsibilities any more.	T	F
117. My emotions don't seem to be as strong as other peoples.	T	F
118. I feel weak and tired much of the time.	T	F
119. Strange ideas from outside keep turning over in my mind and they won't go away.	T	F
120. Others get breaks that I don't.	T	F
121. I repeat certain behaviors again and again, sometimes to reduce my anxiety and sometimes to stop something bad from happening.	T	F
122. I have taken prescription medication that was not meant for me.	T	F
123. My current life is still upset by flashbacks of something terrible that happened to me.	T	F
124. I often ruin the good things that happen to me.	T	F
125. Evil voices are trying to take over my mind.	T	F
126. I feel very guilty when I lose my temper.	T	F

127.	My enthusiasm for the work I do never really diminishes.	T	F
128.	I guess I'm no different from my parents in becoming somewhat of an alcoholic.	T	F
129.	Lately, I have had to think things over and over again for no good reason.	T	F
130.	I encourage people to admire the things I say or do.	T	F
131.	I give up doing things when I have to do them alone.	T	F
132.	I am a fearful and inhibited person.	T	F
133.	People who are supposed to be my friends would like to do me harm.	T	F
134.	I often let my angry feelings out and then feel very guilty about it.	T	F
135.	I very often hear things so well that it bothers me.	T	F
136.	Other than my family, I have very few close relationships.	T	F
137.	Disorganization makes me very uncomfortable.	T	F
138.	I often criticize people strongly if they annoy me.	T	F
139.	I have many talents that others wish they had.	T	F
140.	There are terrible events from my past that come back repeatedly to haunt my thoughts and dreams.	T	F
141.	I know I've spent more money than I should buying illegal drugs.	T	F
142.	Before I know it, I often start shouting angrily at friends and family	T	F
143.	It bothers me that my body gets worn out very quickly.	T	F
144.	It's all right to get around the law if you're not likely to get caught.	T	F
145.	I believe I'm being plotted against.	T	F
146.	I'm a loner and I don't mind it.	T	F
147.	I still feel terrified when I think of a traumatic experience I had years ago.	T	F
148.	For some time now, I've been feeling very guilty because I can't do things right anymore.	T	F
149.	Punishment never stopped me from doing what I wanted.	T	F
150.	I rarely believe what people tell me.	T	F
151.	I'm a very sociable and outgoing person.	T	F
152.	I've become enthusiastic about almost anything I do.	T	F
153.	I am confused about who I am.	T	F
154.	I hate to think about some of the ways I was abused as a child.	T	F
155.	I would never break the law, even if I could get away with it.	T	F

156. There are members of my family who say I'm selfish and think only of myself.	T	F
157. I flew across the Atlantic 30 times last year.	T	F
158. Drinking alcohol helps when I'm feeling down.	T	F
159. I would much rather follow someone than be the leader.	T	F
160. Ideas often race through my mind much faster than I can speak them.	T	F
161. I often get so upset that I want to hurt myself seriously.	T	F
162. Some people say that I'm a strange or odd person.	T	F
163. Sometimes I Find comfort in my misery.	T	F
164. I often find that I've been treated unfairly.	T	F
165. I quickly show my anger at people who disagree with me.	T	F
166. I feel guilty much of the time and often don't know why.	T	F
167. I've been feeling sad and blue and can't seem to snap out of it.	T	F
168. I know how to charm people.	T	F
169. I have always had to watch out for people who are trying to cheat me.	T	F
170. I'm always willing to go along with what others would like to do.	T	F
171. I approach all of life's challenges with a bold and vigorous attitude.	T	F
172. I never feel like I have anything worthwhile to contribute to a conversation.	T	F
173. If a medication is not helping me, I may take it more frequently or increase the dose.	T	F
174. I've had many periods in my life when I was so cheerful and used up so much energy that I fell into a low mood.	T	F
175. I often feel very unhappy with who I am.	T	F
176. I don't like to change my routine.	T	F
177. I don't need to have close friendships like other people.	T	F
178. Physically hurting myself has sometimes brought me comfort.	T	F
179. Many people have been spying into my private life for years.	T	F
180. I'm pretty good at deceiving people when I want to.	T	F
181. Even in good times, I've always been afraid that things would soon go bad.	T	F
182. I am very good at inspiring and energizing others.	T	F
183. I'm willing to starve myself to be even thinner than I am.	T	F
184. I am often irritable and short-tempered.	T	F
185. I always try to finish my work before taking time out for leisure activities.	T	F

186. People would have to be exceptional themselves to understand my abilities.	T	F
187. I really don't understand human feelings like other people do.	T	F
188. Too many rules get in the way of doing what I want.	T	F
189. I sometimes feel I deserve to be unhappy.	T	F
190. I've been downhearted and sad much of my life.	T	F
191. I tend to go along with others' opinions.	T	F
192. I avoid most social situations because I expect people with reject me.	T	F

Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	NOT AT ALL	MILDLY BUT IT DIDN'T BOTHER ME MUCH	MODERATELY – IT WASN'T PLEASANT AT TIMES	SEVERELY – IT BOTHERED ME A LOT
Numbness or tingling				
Feeling hot				
Wobbliness in legs				
Unable to relax				
Fear of worst happening				
Dizzy or lightheaded				
Heart pounding/racing				
Unsteady				
Terrified or afraid				
Nervous				
Feeling of choking				
Hands trembling				
Shaky / unsteady				
Fear of losing control				
Difficulty in breathing				
Fear of dying				
Scared				
Indigestion				
Faint / lightheaded				
Face flushed				
Hot / cold sweats				

Appendix C

Script for Stress Inoculation Training (SIT). Stress Inoculation Training was developed by Donald Meichenbaum (1985). The SIT model used in this study is that used in the Meichenbaum guidebook, which provides a step by step intervention to enhance individuals' effectiveness in stress management. The following provides an overview of the steps included in the Meichenbaum model.

1st Session: Conceptualization Phase

This session will consist of the explanation of stress, describing the interactive model of transactional stress and coping. This will include resource evaluation (internal and external skills), and primary and secondary appraisal.

2nd Session: Skills Acquisition Phase

This session will consist of teaching basic techniques of stress management. This includes describing activities to be done to reduce stress, and will specifically focus on the following stress management techniques: word desensitization, body awareness, organization/time management, and breathing exercises. No more than 4 techniques will be taught in this session.

3rd and 4th Sessions: Practice and Application Phase

These sessions will focus on skill acquisition practice in a controlled environment. Individuals will be partnered with another person and the monitor will scan through, assisting and providing techniques, identifying when stress is overwhelming, and help the

individuals actively practice stress management skills through body identification,

controlled breathing skills, and mental feedback.

Appendix D

The final analysis of qualitative data focuses on the MBTI letter pairings and types. A total of 16 possible personality combinations may assist practitioners in understanding and describing educational and career choices, leadership and management performance, physical and mental health, stress, performance, relationship satisfaction and choices, and more (Vincent et al., 2013). Twelve of the 16 personality types were identified within the sample. The following patterns are addressed in four letter-pattern dichotomies, with 9 (23.7%) identifying as ISTJ, 6 (15.8%) as ENTJ, 6 (15.8%) as ESTJ, 4 (10.5%) as INFJ, 3 (7.9%) as INTJ, 3 (7.9%) as ISFJ, 2 (5.3%) as ENFJ, 1 (2.6%) as ENFP, 1 (2.6%) as ESFJ, 1 (2.6%) as ESFP, 1 (2.6%) as ESTP, and 1 (2.6%) as ISTP. The four dichotomy profiles not seen in this sample population were INFP, INTP, ENTP, and ISFP. Table 4 describes these results.

Table 4 – MBTI Totals

MBTI	N	Percentage
ISTJ	9	23.7
ENTJ	6	15.8
ESTJ	6	15.8
INFJ	4	10.5
INTJ	3	7.9
ISFJ	3	7.9
ENFJ	2	5.3
ENFP	1	2.6
ESJ	1	2.6
ESFP	1	2.6
ESTP	1	2.6
ISTP	1	2.6
Total	38	

Careful analysis of MBTI personality types further compared to the dependent variables can contribute further to understanding if any emerging patterns are present. Through a crosstab analysis, MBTI types were compared with whether the individual completed SIT and enrolled in military science programs for the spring semester. Twenty-two individuals completed SIT with the following MBTI personality types: 6 (27.4%) identified as personality type of ISTJ, 3 (13.6%) as ENTJ, 3 (13.6%) as ESTJ, 3 (13.6%) as INFJ, 3 (13.6%) as ISFJ, 2 (9.2%) as INTJ, 1 (4.5%) as ENFJ, and 1 (4.5%) as ESTP. Sixteen individuals with identified personality profiles did not complete SIT with the following profiles: 3 (13.6%) as ENTJ, 3 (13.6%) as ESTJ, 2 (13.6%) as ISTJ, 1 (4.5%) as ENFJ, 1 (4.5%) as ENFP, 1 (4.5%) as ESFJ, 1 (4.5%) as ESFP, 1 (4.5%) as INFJ, 1 (4.5%) as INTJ, and 1 (4.5%) as ISTP. Table 5 displays these results below.

Table 5 – MBTI with SIT

| | Complete SIT | | | |
| | Yes | | No | |
MBTI	N	Percentage	N	Percentage
ENFJ	1	4.5	1	6.3
ENFP	0	0	1	6.3
ENTJ	3	13.6	3	18.8
ESFJ	0	0	1	6.3
ESFP	0	0	1	6.3
ESTJ	3	13.6	3	18.8
ESTP	1	4.5	0	0
INFJ	3	13.6	1	6.3
INTJ	2	9.2	1	6.3
ISFJ	3	13.6	0	0
ISTJ	6	27.4	3	18.8
ISTP	0	0	1	6.3
Total	22	57.9	16	42.1

MBTI personality types were also compared with the second dependent variable, the student's decision to enroll in military science classes for the spring semester. A crosstab analysis identified 29 (76.3%) individuals who completed the demographics questionnaire chose to enroll in the spring semester for military science, and 9 (23.7%) chose to not enroll in military science classes in the spring semester. Twenty-nine individuals enrolled in the spring semester for military science had the following MBTI personality type profiles: 9 (31%) identified as ISTJ, 4 (13.8%) as ENTJ, 4 (13.8%) as ESTJ, 3 (10.3%) as INFJ, 2 (6.9%) as INTJ, 2 (6.9%) as ISFJ, 1 (3.4%) as ENFJ, 1 (3.4%) as ENFP, 1 (3.4%) as ESFJ, 1 (3.4%) as ESFP, and 1 (3.4%) as ESTP. Nine individuals chose not to enroll in the spring semester for military science and had the following MBTI personality type profiles: 2 (22.2%) identified as ENTJ, 2 (22.2%) as

ESTJ, 1 (11.1%) as ENFJ, 1 (11.1%) as ENFJ, 1 (11.1%) as INFJ, 1 (11.1%) as INTJ, 1

(11.1%) as ISFJ, and 1 (11.1%) as ISTP. Table 6 displays the results below.

Table 6 – MBTI with Enrollment in the Spring Semester

	Enrollment in MS Spring Semester			
	Yes		No	
MBTI	N	Percentage	N	Percentage
ENFJ	1	3.4	1	11.1
ENFP	1	3.4	0	0
ENTJ	4	13.8	2	22.2
ESFJ	1	3.4	0	0
ESFP	1	3.4	0	0
ESTJ	4	13.8	2	22.2
ESTP	1	3.4	0	0
INFJ	3	10.3	1	11.1
INTJ	2	6.9	1	11.1
ISFJ	2	6.9	1	11.1
ISTJ	9	31	0	0
ISTP	0	0	1	11.1
Total	29	76.3	9	23.7

Qualitative analyses are important to address when administering

psychoeducational services and teaching emotion-focused strategies to cadets in a group

environment. A qualitative analysis provides the opportunity for researchers to address

details not analyzed in quantitative reports (Sofaer, 1999). Participants completed a

seven-question Likert-type scaled survey at the end of the final session, designed to

provide the opportunity for constructive feedback on service delivery. Overall, feedback

was positive, with a majority of participants stating they found the information and

service delivery to be useful. Comments in the constructive feedback recommended an

increase in participation numbers, providing the service every other week (versus

weekly), and ensuring the process through each session is not rushed, with ample time and opportunity for participants to reflect and respond to the strategies discussed.

Attaining comments and soliciting feedback from clients as well as analyzing this in an aggregated manner can improve the performance of practitioners working with this population (Sofaer, 1999).

Appendix E

Qualitative Analysis

To understand the effectiveness better of the Stress Inoculation Training program provided to military science minors; it is important to evaluate feedback from participants who completed the entire training. This provides individuals' insight into effectiveness of the program, through subjective rating scales. Qualitative data delivers the opportunity to evaluate individual differences and preferences when designing and integrating a program designated to assist in cognitive differences. Participants' feedback regarding program participation increases insight into specific ways the program was effective, recognize and correct for any weaknesses, and utilize it as an opportunity for enhancement of aspects of program effectiveness (Sofaer, 1999).

Overall, 22 participants completed Stress Inoculation Training. At the end of the final session, participants completed a survey comprised of seven questions addressing the quality of service, specific techniques utilized, preferred sessions (i.e., what was most helpful? The stress coping model, learning techniques, or practicing techniques), times of which the sessions were offered (i.e., preference of every week versus every other week), and overall quality of service. A final section of comments was also provided, for participants who desired the opportunity to discuss anything the questions did not address. The comment section was reviewed to identify emerging themes.

The first question asked: "How would you rate the quality of service you have received?" Participants responded using a Likert scale of one to four (one meaning excellent, two meaning good, three meaning fair, and four meaning poor). Overall, 16 of the 22 participants (72%) rated the quality of service as 'excellent', 4 (18%) rated it 'good', and two (9%) rated it 'fair', with zero individuals rating the SIT as poor. The second question asked, "How do you feel now, compared to when you first came to Stress Inoculation Training?" (1 = much better, 2 = slightly better, 3 = about the same, and 4 = worse). Overall, 10 (45%) participants rated themselves as feeling 'much better', 11 (50%) rated themselves as 'slightly better', and one (5%) individual rated him or herself as 'about the same' with zero participants rating him or herself as 'worse'. The third question asked, "What was most helpful of the SIT?" (1 = the model of stress, 2 = the techniques, 3 = practicing the techniques). Eleven (50%) participants identified the techniques provided in session as most helpful, 8 (36%) stated practicing the techniques, and 3 (14%) preferred the model of stress. The fourth question asked, "How much has SIT helped you in understanding yourself?" with a Likert scale of one to four (1 = a great deal, 2 = some, 3 = not much, and 4 = not at all). Fifteen participants (68%) stated 'some', 6 (27%) rated 'a great deal', one (5%) rated 'not much' in SIT helping to understand him or herself better, and zero rating him or herself as 'not at all'. The fifth question asked, "Would you recommend our program to a friend?" with a Likert scale of one to four (1 = yes, definitely, 2 = yes, probably, 3 = No, probably not, 4 = No,

definitely not). Participants stated they would recommend the program to a friend, with 11 (50%) rating 'yes, definitely' and 11 (50%) rating 'yes, probably' and no participants rating 'no' or 'definitely not'.

In the first half of the semester, Stress Inoculation Training was offered every other week for a total of four weeks. This proved to reduce the number of continuing participants and many makeup sessions were offered, with frequent reminder calls and emails sent out. The sixth question asked, "Do you find SIT easier to attend if it were every week for 4 weeks (versus every other week)?" with a Likert scale of one to four (1 = very likely, 2 = I might return, 3 = probably not, and 4 = I would not return). A majority of participants (n = 15, 68%) stated they were more likely to return if sessions were offered every week, 4 (18%) stated they were not likely to see a difference, and 3 (14%) stated they might return if it were offered every week instead of every other week. No participants selected 'I would not return'. The seventh and final question asked, "In general, how satisfied are you with the experience of the Stress Inoculation Training?" with a Likert-scale of one to four (1 = very satisfied, 2 = mostly satisfied, 3 = not really satisfied, 4 = not at all satisfied). Overall, 15 of the 22 (68%) participants rated they were very satisfied with the SIT, and 7 (32%) rated they were mostly satisfied with the experiences of SIT, and no participants selected 'not really satisfied' or 'not at all satisfied.'

A comment section was provided for participants to add any additional feedback related to the SIT. Twelve participants (55%) completed this section; with 11 of these

comments discussed, (one comment is excluded from the analysis, as it is strictly a smiley face drawn in the comments). Each comment will be quoted in its entirety and discussed in this section. Overall, two major themes were identified in the feedback: positive commentary and constructive feedback. The first section of commentary was mostly positive; indicating participants believed they benefited from sessions provided and were stated as follows:

- "I always feel better when I leave the room and find myself able to handle stress a lot better. When any of my friends are stressed and they don't know the techniques, I tell them about techniques I learned in stress inoculation training and how it can help them relieve stress. 10/10 would recommend"

- "I actually wasn't expecting much when I decided to do this. But this last session really opened me up. I'm actually going to try and employ helpful habits of 15 min increment to help deal with the cramming. While a useful tool when needed, not preferable. And I like your idea of not just saying the bigger picture but actually expanding it and how even my class that I'm required to take, actually plays a bigger role than I originally intended. So thank you for your service and ideas,"

- "I have learned how to push forward and to not let negative thoughts and stress paralyze me from accomplishing the task at hand,"

- "Awesome training in a judge-free environment,"

- "You're a great psychologist and I hope you go far in life. Have fun in Charleston! Go to Tazeki's [personal comment related to rapport building],"

- "I understand myself a little better now since I was able to talk it out loud,"

- "Having SIT every other week is more convenient for students with busy schedules. Also having more real-life situations help with relating to students," and

- "Thank you for creating this program. The content was very helpful for me as a cadet."

The first theme focuses on positive statements related to the overall benefit from Stress Inoculation Training. Personal statements provided the opportunity for participants to relate how SIT may personally influence their day-to-day life. Further, commentary provides an opportunity for personalizing the sessions, which can increase the likelihood of actively using strategies provided in the sessions (Sofaer, 1999). Participants may gain significant advantage relating personal comments to the overall related effectiveness.

A second theme identified in the comments included constructive feedback. Listed below were the comments:

- "For its intended purpose it serves as a great tool but it sometimes feels as though it is too rushed and easy to forget. Perhaps those who want more time in session and less time out set something up. But over all my first time with a shrink was cool and free so bonus."

- "Great program, could offer to all cadets."

- "Overall good but it would have been better if there were more people. The first day was fine but every other session had two to four people."

It is important to address the theme of constructive feedback as it offers an opportunity to evaluate and adjust (where necessary) provisions of therapy offered. Individuals who were identified as needing more assistance were offered individual therapy sessions. Identification occurred based on the information shared within the group sessions (i.e., some individuals through body language appeared significantly distressed, others verbally stated significant stressors, and a few individuals cried in session). The individual commenting on more individualized sessions was not offered individual therapy session directly but at the end of the fourth session, all group participants were informed he or she were welcome to return individually, as needed. Addressing the comment related to offering SIT to all candidates, the intended purpose after this pilot study is to open it to all cadets in the military science program and one individual appears to believe it would be helpful for the entire military science program. Recommendations for group therapy suggest three to eight people, with eight individuals being a high number. The more individuals you allow in a session, the greater the time allotment is recommended (for example, SIT was 60 minutes each session but a group with eight individuals should have 90 minutes allotted to provide time for sharing; SAMHSA, 1999). Each session was approximately 60 minutes long and had anywhere from two to six individuals within the group. Although typical for a group session, it

may perhaps be advised to consider extending the session to 90 minutes for larger groups. A caveat to this group time change, though, may include a reduction in participation. Comments provide the opportunity to reflection on personal journey and any potential constructive feedback that provide insight to improving the process.

It is important to analyze feedback, with a realistic approach in mind. Client feedback provides current and future clinicians the opportunity to analyze and determine if correction is necessary to increase service delivery. Overall, feedback from the completed qualitative surveys indicated participants found SIT effective and had a positive contribution to life in general. Some participants stated the information and techniques learned in the sessions were shared with, thereby disseminating the SIT training.

Additionally, four individuals were offered individual sessions (based on statements and behavior in sessions). Two accepted and participated in individual sessions, to focus on symptoms of depression and traumatic experiences. The two individuals saw the primary researcher on a one-on-one weekly basis for an appropriate amount of time (based on individual needs). The researcher utilized these sessions to build on the skills taught in the group session (coping strategies) and to focus explicitly on topics the cadets preferred to address in a more private setting.

VITA

Ashley Doss graduated from the University of Phoenix with a Bachelor of Science degree in Psychology and a minor in business in the summer of 2013. In 2014, she enrolled in the Chicago School of Professional Psychology, earning her Master of Arts Certification in Industrial/Organizational Psychology later in the year. In 2017, Ashley earned her Master of Arts degree in School Psychology. Ashley completed her thesis, titled "Military lifestyle's impact on children's adjustment" and focuses her research on understanding the military population. She has also conducted research on obesity, social media, and multiculturalism. Ashley's focus in her program of study includes counseling, assessments, consultation, behavior analysis, systems-level services, and increasing her understanding of diversity and multiculturalism. In the future, Ashley plans to work with military families by developing and providing interventions that increase engagement and cohesion to military families from all backgrounds.

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