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# Social Connectedness and Social Support in a Military and Civilian College Population: Associations with Psychological, Physical and Stress-Related Health Outcomes

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# Social Connectedness and Social Support in a Military and Civilian College Population: Associations with Psychological, Physical and Stress-Related Health Outcomes

by

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# CERTIFICATE OF APPROVAL

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Abstract

This study investigates social connectedness and social support in a military and civilian college population, and their associations with psychological, physical and stress-related health. There were 301 total participants, 51 of which were military personnel. The participant's ages ranged from 18-59 ($M$ = 23.48, $SD$ = 7.24), with majority of the participants being female (71.8%), Caucasian (66.1%) and in a relationship (50.8%). The study was administered online via SONA. The following measures were administered in this study: the Social Connectedness Scale, the Multidimensional Scale of Perceived Social Support, the Physical Health Questionnaire, MOS Short Form Survey Instrument, UCLA Loneliness Scale, the Depression Patient Health Questionnaire, Hopkins Symptom Checklist Anxiety Scale, and the PTSD Checklist- Civilian Version. Veteran students indicated several issues while transitioning to higher education, as well as, several factors that they feel make them unique from their peers. Social connectedness significantly predicted all measures of health, especially PTSD ($\beta$ = -.43, $p$ < .001), depression ($\beta$ = -.47, $p$ < .001) and general health ($\beta$ = -.30, $p$ < .001), with higher rates of social connectedness denoting less symptoms. The social support's association with health via the main effect model was supported by the results, whereas, the buffering hypothesis model was not supported. Social support was most predictive of anxiety ($\beta$ = -.28, $p$ < .001), PTSD ($\beta$ = -.37, $p$ < .001) and general health ($\beta$ = .36, $p$ < .001). Military status was not associated with social connectedness, rendering the serial multiple mediation model untestable. This study provides empirical evidence that social connectedness is a powerful and pervasive human need, with important health implications.

*Keywords*: social connectedness, social support, military personnel, psychological health, physical health, stress

# Social Connectedness and Social Support in a Military and Civilian College Population: Associations with Psychological, Physical and Stress-Related Health Outcomes

The use of social constructs to predict or explain health outcomes has been studied in psychology's theoretical literature since the 1940s and '50s with the seminal work attributed to Durkheim, who researched social integration and cohesion on mortality rates (Berkman, Glass, Brissette, & Seeman, 2000; Cohen, 2004). Social constructs and health outcomes have been studied in a myriad of populations. A population that has yet to be researched thoroughly regarding the relationships of social connectedness and social support with health is the military population, especially for students with military experience. Though military research has become a popular phenomenon in the literature, it has primarily focused on health outcomes in regards to PTSD, life expectancy, suicide, and depression, not the inclusion of social constructs as mediating factors.

With the initiation of the Second World War and post 9/11 GI Bill, there has been ample influx of military personnel entering the university setting nationwide (Cohen, 1998; DiRamio, Ackerman, & Mitchell, 2008; Rumann & Hamrick, 2010; Bound & Turner, 2002). A common theme asserted among researchers is that combat veterans represent a unique population, which is an untapped resource on the university campus (DiRamio, Ackerman & Mitchell, 2008; Lighthall, 2012). Research on this epidemic has found significant differences between veteran students and students with no military experience. Some major themes that emerged throughout the empirical literature include role incongruities, developed maturity level, challenges navigating relationships, support inadequacies, and health concerns and disabilities (DiRamio, Ackerman & Mitchell, 2008; Lighthall, 2012; Ackerman, DiRamio, & Mitchell, 2009).

Research conducted by Schlossberg, Lynch, and Chickering (1989) identified three transitional phases associated with life events. DiRamio and colleagues (2008), finalized the three transitional phases and applied them to the military student population. The first two phases, “Moving In and Moving Through” focus on the driving force behind an individual’s choice to join the military and their experiences during their military contract. The third phase labeled “Moving Out” incorporates various transition programs, returning home after deployment and academic preparation to begin their academic studies. Once stage three is satisfied, the first stage “Moving In” is repeated, however, the focus is different from the original “Moving In” stage where the individual joined the military. This new “Moving In” phase is organized around the needs associated with pursuing an education at the college level. DiRamio, Ackerman, and Mitchell (2008) propose that connecting with peers (or an individual’s social connectedness), blending in with peers, relationships with faculty, campus veteran’s office priorities, finances, disabilities student veterans face, and mental health and PTSD, are all facets of this new “Moving In” phase.

The focus for this study incorporates the difficulties veteran students face when navigating through higher education, and how the degree of social support and social connectedness mediates their health outcomes. Moreover, the researcher is interested in which social construct, social connectedness or social support, is a better predictor and mediating factor of veteran students psychological, physical and stress-related health outcomes.

**Social Connectedness**

Belongingness has been conceptualized as the third major human need (Kohut, 1984; Baumeister and Leary, 1995). Baumeister and Leary (1995) hypothesized that the need to belong is a powerful, fundamental and pervasive motivation that drives individuals to form and maintain

social bonds. The need to belong is said to possess affective consequences (such as depression and anxiety), prime cognitive processes (thoughts) and, when thwarted, leads to ill physical and psychological effects including stress (Baumeister & Leary, 1995). Lee and Robbins (1995) concur with these findings and enhance our understanding of belongingness by incorporating self-psychology notions dictated by Kohut. Kohut (1984) succeeded in transforming belongingness from the prior psychoanalytic theory to a broader self-psychology theory (Lee & Robbins, 1995). Kohut (1984) describes belonging as the need to feel "human among human," that is, to feel as if you have a place in society as a whole. Adding to Kohut's notion of belongingness, Lee and Robbins (1995) proposed three aspects that comprise belongingness-companionship, affiliation, and connectedness.

Social connectedness is a derivative of the belongingness hypothesis; however, instead of focusing on the interpersonal bonds formed between the self and others like social support, social connectedness focuses on how we fit into society as a whole (Kohut, 1984; Lee & Robbins, 1995). Social connectedness can be defined as how one views oneself in relation to the external world (Lee & Robbins, 1995, as stated in Williams & Galliher, 2006). It is said to be one's opinion of our self in relation to others, relatively stable and shaped through experiences early in one's life (i.e. adolescence) (Williams & Galliher, 2006; Lee & Robbins, 1995). Copious amounts of social connectedness allow individuals to more easily identify with those they perceive as different, feel comfortable and confident within a larger social context and have a strong sense of being a "human among humans" (Lee & Robbins, 1995, p. 233).

Individuals who lack the skills necessary to facilitate social connectedness experience detrimental physical and mental consequences. These include a negative impact on health, adjustment, general well-being, and psychological functioning. Low connected individuals may

report a lack of meaningful, supportive relationships, which may lead them to perceive their environments as negative and cold and experience psychological distress (Lee, Keough & Sexton, 2002; Williams & Galliher, 2006). Overall, problems with social connectedness indicate a more persistent, global inability to connect with our social world (Williams & Galliher, 2006). Individuals also will have trouble accepting social roles and responsibilities and feel distant from those around them (Lee & Robbins, 1995). Globally, a lack of social connectedness may impair one's ability to effectively function in life, leading to an individual distancing themselves from society and living a solitary life.

Social connectedness has been found to be negatively associated with several health outcomes such as stress, anxiety, depression, and loneliness, and may be a protective factor against the effects of stress and its outcomes (Lee, Keough & Sexton, 2002, Hawkley & Cacioppo, 2010). Loneliness, another negative psychological health outcome, is a construct related to both the social connectedness and belongingness paradigms (Hawkley & Cacioppo, 2010). It is defined as a subjective and aversive experience, which originates from an individual's perception that his or her social needs are unfulfilled in either the quality or the quantity of his or her social relationships (Hawkley & Cacioppo, 2010; Lee & Robbins, 1995). Loneliness diverges from belongingness in two principle aspects- personality and developmental. Lee and Robbins (1995) stated that a low degree of connectedness renders an affective and behavioral consequent that exhibits characteristics of an individual's personality. Due to loneliness' affective propriety, it can either be experienced in an acute or chronic form, whereas, belongingness is a self-concept derived from a developmental process that is first introduced in adolescents, and is expressed throughout adulthood.

Lee and colleagues' (2002) findings on the application of social connectedness as a protective factor propelled Pidgeon, McGrath, Magya, Stapleton and Lo (2014) to investigate this claim further. They concluded that social connectedness, more so than social support, acted as a protective factor against stress. Research has identified sex differences in social connectedness; females have been found to report higher levels of social connectedness than men, and the relationship between social connectedness and perceived stress has been found to be more pronounced in men (Lee, Keough & Sexton, 2002). The research addressing social connectedness as it relates to perceived stress and health symptoms is limited and should be examined more thoroughly. This research hopes to expand on the current dearth of knowledge to further the psychological understanding of social connectedness.

**Social Support**

The construct of social support has been studied with a myriad of outcome variables including psychological well-being, physical health and interpersonal satisfaction (Flannery, Wieman, & Wieman, 1989; Vilchinsky et al., 2011). Social support is the notion or perception that others admire, value, love, and care for an individual, and together, the two individuals combine to make a social network of mutual assistance and obligations (Willis, 1991; Taylor, 2010). Correspondingly, Williams and Galliher (2006) define social support as an individual's perception of the amount he or she is dependent on others for emotional support, and other valuable interpersonal resources.

Willis (1991) identifies four main forms of social support, which include material support, informational support, physical comfort and emotional support. When individuals partake in material support, they are offering tangible assistance, often in the form of offering goods, services or financial assistance. Informational support consists of one individual helping

another better understand their stressful situation and helping determine the proper coping strategies and resources needed to overcome the specific stressful event. Physical comfort includes a touch, hug or physical contact intended to sooth or comfort an individual. When one expresses emotional support, they provide reassurance that another is talented, worthy and valuable to them (Baumeister & Finkel, 2010). Research has found that low material and emotional support were independently related to depression and negative morale. However, informational support was associated with positive morale (Schaefer, Coyne, & Lazarus, 1981). The combination of the four facets of social support together leads one to believe that they have a high degree of social support.

In the field of health psychology, social support is said to be the most health promoting construct researched (Hawkley, Burleson, Berntson & Cacioppo, 2003). Other researchers have agreed with that bold statement by adding that not only is social support integral to one's well-being, it is also the most significant coping resource that one possesses (Taylor, 2010). House, Landis, and Umberson (1988) discovered that when someone perceives a strong social support system, he or she has a lower likelihood of illness, faster recovery time, reduced risk of prolonged illness, and lower mortality rates due to serious diseases (Rutledge et al., 2004). Similar to their findings, Christenfeld and Colleagues (1997) concluded that social support reduces physiological and neuroendocrine responses to stress in retort to laboratory stressors when a supportive companion is present compared to when no companion is present. Taylor (2002) found that between men and women, women are more likely to rely on social networks for coping with stress.

Often, just the perception that social support is available can lead to the numerous health benefits connected with social support (Bolger, Zuckerman & Kessler, 2000). Perceived social

support refers to one's personal appraisal of his or her available support. Day and Livingstone (2003) define it as one's perception of available support, as well as one's perception from whom he or she could seek support. The researchers explain that one's perception of their social support network has an essentially greater coping effect than if they actually receive the support. Bolger, Zuckerman, and Kessler (2000), and Baumeister and Finkel (2010) conclude that the perception of social support is paramount. One does not have to experience social support physically. Instead, one only has to sense that support is available to benefit from social supports effects. The researchers expounded that the degree of social support an individual perceives is greatly influenced by the quality of their relationships.

Furthermore, one's perception of social support may depend on individual differences. Social support is a predictor of general well-being and is a buffer (or a protective factor) against the effects of stress, but only if it meets the individual's needs (Cohen & McKay, 1984). Seeking social support is classified as a coping strategy for individuals undergoing stress (Day & Livingstone, 2003). Individuals high in social support may be more optimistic and cope better to stressful situations, which could promote positive health outcomes.

**Health Outcomes**

Health has been identified by many psychologists as a multidimensional construct, combining several distinct dimensions into a single theoretical concept (Wang, Wu & Liu, 2003; Edwards, 2001). The most useful concept of health was proposed by Smith (1981), who identified four modes of health: clinical, role-function, adaptive, and eudemonistic. The clinical mode is expressed by the absence of signs or symptoms of a disease or disability identified through medical science. Role-function is defined as the act of accurately performing social norms and behaviors with the maximum expected outcome. The third mode is adaptive, which is

defined as an individual's ability to flexibly adapt and interact with their environment to their maximum advantage. The eudemonistic mode is defined as having an enthusiastic well-being. Wang and colleagues (2003) asserted that Smith's four modes of health were hierarchical in nature, ranging from the clinical mode representing the traditional aspects of health to the eudemonistic mode, which takes a more relative, holistic perspective.

Smith (1994) identified three categories of health including, physical, psychological and stress-related. She also stated that measures of blood pressure, blood glucose, weight fluctuations and daily life activities were indicators for physical health. Psychological health outcomes are measured through a sundry amount of indicators, some being, depression, morale, anxiety, tension, self-esteem and well-being scores. Stress-related indicators were comprised of individual self-reports of negative life events, "costs" to the person and physiological measures of urinary catecholamines or blood norepinephrine levels.

In this study, Smith's three categories of health were measured using multiple measures for physical, psychological and stress-related outcomes. Taking Smith's work into account, this study analyzed students' physical health by utilizing measures that indicate one's physical condition via his or her physical and general health. Psychological health was measured through the various constructs of depression, loneliness, anxiety, and PTSD. Finally, stress-related health was measured through stress questionnaires relating to perceived stress and university stress.

**Social Connectedness vs. Social Support and Health Outcomes**

Social support has long been studied in relation to health outcomes and is believed to mediate ill effects on health. Social connectedness is a more modern construct than social support, and unlike the ample amount of research on social support, social connectedness is found lacking in the empirical literature. Unlike social support, which focus' on an individual's

interpersonal relationships, social connectedness focus' on an individual's perception of how he or she fits in with society as a whole. With social support on the other hand, there is a perception of dependency on others, which is not found in social connectedness. Due to social connectedness being a more novel construct in the literature, there is a dearth of research concerning its relationship with health outcomes. Unlike social connectedness, social support has a plethora of research regarding its association with health.

Social support has been examined on the dimension of an individual's physical, mental and psychological health (Smith, Fernengel, Holcroft, & Gerald, 1994). Several social support hypotheses have been postulated, including the buffering hypothesis model and the main effect model (Cohen & Willis, 1985). The buffering hypothesis model postulates that social support is a protecting factor against potential adverse effects associated with stressful events (Cohen & Willis, 1995). In their article, they stated that social support evaluates the perceived availability of interpersonal resources that are receptive to the needs stimulated by stressful events. In the buffering model, support is related to well-being and buffers from pathogenic influences, but only when an individual is under stress.

In order for the buffering hypothesis model to be implemented, an individual must first experience a stressful event. Cohen and Willis (1985) argue that a person experiences stress when they appraise a situation as threatening or demanding and lack the skills necessary to cope with the event. Likewise, Sells (1970) claims that individuals perceive a stressful event when a situation arises in which they should respond, but lack the ability to respond immediately.

Baum, Singer and Baum (1981) state that the inability to effectively cope with stress could lead to negative affect, elevation of physiological response, and behavioral adaptions. The presence of stress has grave consequences on physical health, including disruptions in

neuroendocrine or immune system functioning, changes in health-related behaviors, or failures in stress care (Cohen & Willis, 1985). Through the buffering model, support mediates the effects of stress on illness in two ways. The first way is for support to intervene between the stressful event and reaction by mitigating or preventing a stress appraisal response. The second way is for support to intervene before the onset of neuroses associated with stress by eliminating the stress reaction or influencing one's physiological processes.

Though social support is said to be a coping strategy for individuals to employ during stressful situations, the literature has shown contradictory findings. Uchino, Bowen, Carlisle and Birmingham (2012), claim that though social support has been universally accepted as being a coping strategy for negative health issues, the construct lacks empirical evidence to support the assertion. In their study, they found that social support was not linked to the psychological mechanisms of depression, perceived stress, and other affective processes, contrary to psychological consensus.

The second social support hypothesis that is identified in the current literature is the main effect model. This model promotes an overall beneficial effect of support and assesses an individual's degree of integration in a larger social network (Cohen & Willis, 1985). Unlike the buffering model, this model claims that social resources have a beneficial effect on well-being regardless of whether an individual is currently under stress. The generalized beneficial effect of support is obtained through large social networks that provide regular positive experience and stable, socially rewarding roles in one's community. Later research performed by Cohen (2004) linked the main effect model to social connectedness, saying that like social connectedness, the main effect model is related to one's overall well-being through providing positive affect, and a sense of predictability and stability in an individual's current situation.

Work conducted by Kawachi and Berkman (2001) found that social support may directly produce positive psychological states, which may, in turn, benefit one's mental health by increasing one's motivation for self-care. This type of social support is related to physical health outcomes through emotionally induced effects on neuroendocrine or immune system functioning or through influencing health-related behavioral patterns (Cohen & Willis, 1985). From a purely statistical analysis of the two models, the main effect model only shows a main effect for social support with no significant stress x social support interaction, whereas, the buffering hypothesis model shows a significant interaction between stress x social support, a main effect for social support and a main effect of stress.

In regards to physical health, social support research has emphasized significant findings associated with cardiovascular function, neuroendocrine function and immune function (Uchino, 2006). Cardiovascular function has been associated with social support in a myriad of empirical studies. Findings illustrate that social support is associated with lower resting blood pressure (Uchino et al., 1995; Uchino et al., 1998; Ong & Allaire, 2005), lower ambulatory blood pressure (Steptoe et al., 2000; Gump et al., 2001; Spitzer et al., 1992; Linden et al., 1993; Perloff et al., 1983), predicts atherosclerosis (Angerer et al., 2000; Knox et al., 2000; Seeman & Syme, 1987; Kop et al., 2005; Wang et al., 2005), and plays a substantial role in the progression of diagnosed cardiovascular disease (Berkman et al., 1992; Brummett et al., 2001).

The neuroendocrine functions of social support have been associated with lower plasma and urinary catecholamine levels (Fleming et al., 1982; Seeman et al., 1994; Grewen et al., 2005), and lower overall cortisol levels (Turner-Cobb et al., 2000; Heinrichs et al., 2003) which have proven immunosuppressive effects (Greenspan & Baxter, 1994). Social support has been related to better immune function, specifically in older adults (Uchino et al., 1996; Dixon et al.,

2001; Esterling et al., 1996; Lutgendorf et al., 2005; Miyazaki et al., 2005), higher natural killer cell activity in cancer patients (Levy et al., 1990), increased number of helper t-cell count in HIV + individuals (Persson et al., 1994; Theorell et al, 1995), and decreases an individual's receptivity of influenza (Moynihan et al., 2004; Pressman et al., 2005). Research conducted by Cohen and colleagues (1997), showed that individuals with more diverse social networks (associated with people in a variety of settings) are less likely to develop colds after having a vaccination. The buffering properties of social support help to safeguard an individual from ill effects of stress.

**Current Investigation**

The current investigation examines social connectedness and social support in predicting health outcomes in military and civilian students. These factors were examined to see if students with military experience and students without military experience differ in their social connectedness and social support, and how these possible differences affect their physical, psychological and stress-related health. This study also examines specific transitional issues and differences veteran students experience entering higher education.

Previous research conducted by Vanderploeg and colleagues (2012), found that a significant percentage of veterans who return from deployment possess a variety of "non-specific symptoms," including sleep problems, fatigue, irritability, headaches, body aches and pains, concentration and memory difficulties. Studies conducted by Smith et al. (2009) and Sundin et al. (2014) found that military personnel had a higher prevalence of PTSD than non-military personnel. Prior research on the military student population has analyzed several factors that are implicated in a service member's difficulty re-integrating back into society. An environment that has received a great deal of attention is the college environment with students who possess prior

military service. Vacchi (2012) stated that the transition from the rigidly disciplined, team building military life to the fluid, individualistic college life is the most challenging aspect for student veterans. Together, these questions hope to clarify the differences veteran students encounter in their transition into college life, by way of inspecting the unique personal perspective of each veteran student.

Hypothesis (H) 1:

Based on this previous research, it is hypothesized that students with and without military experience will score differently in regards to their health symptom measures. Hypothesis one has two categories.

H 1.1: Military students will score higher on stress and negative physical and psychological health symptoms, than non-military students (i.e. increased stress, migraines, loneliness, depression, etc.). Research on the differences between veteran and non-veteran students' degree of social support and social connectedness is wanting. Due to this, an exploratory analysis will be tested to evaluate these differences.

H 1.2: Student veterans will score lower on their degree of social connectedness, social support, and higher on their prevalence of health outcomes than non-military students.

Hypothesis 2:

The second hypothesis focuses on the association between social connectedness and outcomes, particularly health outcomes. As indicated by Smith's three categories of health: physical, psychological, and stress-related, this study will investigate each category separately. Hypothesis two in this study focuses on Lee and Robbins' (1995) configuration of social connectedness. Through their research, we recognize that social connectedness emerges during adolescence, and extends throughout one's lifespan. It is also referred to as the emotional

distance between the self and others, held within a larger social context, and is a basic human need. Their research also illuminates the role of social connectedness in one's physical and psychological health outcomes. They posit that poor social connectedness impairs one's ability to effectively function in life, therefore triggering a detachment between the individual and society.

H 2.1: A positive association is hypothesized between social connectedness and physical health, with higher rates of social connectedness denoting better physical health outcomes.

H 2.2: A positive association is hypothesized between social connectedness and psychological health, with greater social connectedness ratings signifying better psychological health.

H 2.3: Alternatively, a negative association is hypothesized between social connectedness and stress-related health outcomes, with higher rates of social connectedness leading to lower levels of stress.

Hypothesis 3:

The third hypothesis emphasizes social supports role on health outcomes, through analyzing and comparing the main effect model and the stress-buffering model as indicated by Cohen and Willis (1985). There are two categories under this third hypothesis.

H 3.1: The stress-buffering model predicts that social support will moderate the relationship between stress and health outcomes. Health outcomes are broken down into physical and psychological health. Specifically, social support will moderate physical health more so than psychological health outcomes in military students involved in stressful situations. Based on previous research which compares the stress-buffering and main effect models, it is hypothesized

that the stress-buffering model will better predict physical health outcomes, due to the activation of physiological systems associated with stress (Cohen, Kessler, Gordon, 1995).

H 3.2: The main effect model, proposes that social support will be associated with physical and psychological health outcomes in students. Cohen (2004) stated that higher rates of perceived social support indicate better physical and psychological health, irrespective of the presence of stress. Unlike the buffering hypothesis, the main effect model, which incorporates an individual's societal influences and pressures, will better predict psychological health outcomes through affecting an individual's normative health behavior (Cohen, 2004).

Hypothesis 4:

The fourth and final hypothesis hopes to better understand military status' association with health by proposing a mediation model utilizing Hayes' Serial Multiple Mediator Model (2013). The model postulates that an individual with military status will have a lower degree of social connectedness due to the myriad of challenges re-integrating back into society (Vacchi, 2012). This delineation from the normative degree of social connectedness should lead to increased loneliness, which then leads to increased stress and ultimately poor physical and psychological health. It is hypothesized that each predictor variable- social connectedness, loneliness, and stress will mediate the relationship between military status health outcomes, as well as, each predictor variable being independently associated with the outcome variables- psychological and physical health outcomes (Appendix A).

The physical health factors investigated in this study include physical health (The Physical Health Questionnaire (PHQ)), and general health (MOS 36-Item Short Form Survey Instrument (SF-36)). Psychological health factors investigated in this study include loneliness (UCLA Loneliness Scale (Version 3)), depression (Depression Patient Health Questionnaire

PHQ-8), anxiety (Hopkins Symptom Checklist (HSCL) Anxiety Scale), and post-traumatic stress (PTSD Checklist- Civilian Version (PCL-C). Stress-related health factors include perceived stress (Perceived Stress Scale) and university stress (University Stress Scale). Research on the relationship between social connectedness and specific health outcomes, with the exception of loneliness, have not been studied in the psychological literature. This research hopes to elucidate the factors that are associated with social connectedness and bring clarity to this area of psychological research.

## Method

### Participants

The 301 participants were recruited from the University of North Florida using the SONA System for extra credit compensation, and consisted primarily of undergraduate students. To be eligible for this study, the participants had to be 18 years of age or older. The ages of the participants ranged from 18-58 ($M$ = 23.48, $SD$ = 7.24) years. The majority of participants were Caucasian (66.1%), with African American (8.6%), Hispanic (9.6%) and Other/Multiple (8.3%) ethnicities being the minority. The majority of the participants were female (71.8%) and in a relationship (50.8%). Further demographics were assessed and explained in depth later in this section and are included in Tables 3 and 4.

*Military Participant Demographics*

Military personnel in this study ranged in ages from 19 to 55 ($M$ = 30.51, $SD$ = 9.64) years old. The majority of the participants were enlisted in the Navy (40.8%) with twenty-seven out of the fifty-one military personnel reporting being enlisted for more than five years (61.3%). The majority of the participants were not currently serving on Active Duty (80.4%). Fourteen participants indicated suffering permanent physical injuries while on deployment (29.2%), ten

participants reported being diagnosed with Post-Traumatic Stress Disorder (20.4%) and twenty-two participants reported having VA disability (44.9%). A majority of the veterans were Caucasian (66.7%), in a relationship (66.7%) and female (56.9%).

Attrition was measured when participants did not complete the survey in its entirety. Ten participants failed to complete the study in its entirety and were thus deleted from the studies statistical analyses. Due to the inability to randomly assign participants to have military experience, each participant received the same survey. Before the participants were given the surveys, the informed consent form was signed ensuring participants of their rights to stop the survey at any time and the protection of their anonymity. All participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2016).

**Procedure**

Participants were given an hour worth of SONA credit for completing the survey, an equivalence of 2-points of course extra credit. To complete this survey, participants logged into their SONA System account, selected the survey titled, “Academic Stress and Functioning.” Once completed, participants were able to denote which class they preferred the extra credit to count towards. After finalizing the extra credit step, participants were given an informed consent in which to participate they had to sign and agree to the terms and conditions. Once completed, they were able to begin the survey. The measures included in the study were comprised of ten scales which examined the factors social connectedness, social support, and physical, psychological and stress-related health outcomes. Missing data responses were conducted using the Multiple Imputation (MI) method. This procedure was chosen due to its ability to perform non-biased analyses, unlike other missing data solutions (Shrive, Stuart, Quan, & Ghali, 2006;

Fichman & Cummings, 2003). The multiple imputation technique creates several imputations for each missing data point, which allows for both the missing value and the estimate of uncertainty associated with the missing value (Fichman & Cummings, 2003).

**Social Connectedness.** The Social Connectedness Scale proposed by Lee and Robbins (1995), is comprised of 8 items that correspond to the three aspects of belongingness: connectedness (4 items), affiliation (3 items) and companionship (1 item). Together, these three aspects constitute an individual's level of social connectedness. Participants were asked to "please rate the following statements with how much you either agree with or disagree with the statement," with answers ranging from 1-agree to 5-disagree. Items were summed and included an individual's inverse perception of feeling connected to those around them, with higher scores indicating more social connectedness.

Lee and Robbins (1995) found an alpha of .91 and a Test-Retest reliability of .96, after a two week period in a college sample consisting of 626 students. Concluding that "the measures appear to have strong internal reliability and stability" (Lee & Robbins, 1995, p. 237). A goodness-of-fit (GFI) was computed and was below the .90 benchmark. To further expand on the measures "fit," an incremental fit index (IFI) was conducted, and was greater than the .90 benchmark, indicated adequate fit with the data (Lee & Robbins, 1995). Convergent validity was analyzed through a study conducted by Lee, Draper, and Lee (2001) and found that the Social Connectedness Scale was positively correlated with an individual's independent self-construal and collective self-esteem. Convergent validity was also established through negative correlations with loneliness, social distress, depression, hostility, and social discomfort, with higher rates of social connectedness leading to lower rates respectively (Lee, Draper, & Lee, 2001). Lee and colleagues (2001) found discriminant validity through non-significant

correlations between the Social Connectedness Scale and a partial correlation analysis with loneliness. This relationship reveals that social connectedness is a distinct construct from loneliness.

**Social Support.** The Multidimensional Scale of Perceived Social Support proposed by Zimet and Colleagues (1988), is comprised of 12 items that correspond with the three sub-scales, Family, Friends, and Significant Other. Participants were asked to answer the following questions using the scale 1-Very Strongly Disagree; Not Suitable to 7-Very Strongly Agree; Very Suitable. Items in the Family sub-scale included "My family really tries to help me." The statement, "I can count on my friends when things go wrong," and "There is a special person who is around when I am in need" correspond with the Friends and Significant Other sub-scales respectively. The scale responses were summed, with higher scores indicating higher perceived social support.

Zimet and Colleagues (1988) found a Test-Retest of 0.72-0.85 for the scale in its entirety in a college population. In the original study, Zimet et al. (1988) found strong Cronbach alphas of 0.91 for Family, 0.89 for Friends, and 0.90 for Significant Other. Convergent validity was examined using the related but different scales of the depression and anxiety subscale of the HSCL. Research shows that the MSPSS is negatively correlated with both the depression and anxiety subscales (Zimet, Dahlem, Zimet, & Farley, 1988). Discriminant validity of the measure was examined by Mirabzadeh et al. (2013) and discovered that the degree of perceived social support an expecting mother possesses was not significantly correlated with the frequency of those women going into pre-term labor. A study incorporating the Marlowe-Crown Social Desirability Scale was combined with the MSPSS to examine the social desirability of the scale (Kelliher, 2013). The MSPSS has been used to study theoretically related phenomena such as

depression and anxiety. One study showed that perceived social support (MSPSS) was negatively associated with the depression and anxiety sub-scales of the HSCL (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974).

**Physical Health Outcomes.** The Physical Health Questionnaire (PHQ), created by Schat, Kelloway, and Desmarais (2005) is comprised of 11-items that follow the statement, "Over the past month…" Questions contained in the measure are distributed into three categories: sleep disturbance, headaches, and gastro-intestinal problems. Examples include, "How often how you had difficulty getting to sleep at night?", "How often have you experienced headaches?", and "How often did you feel nauseated ('sick to your stomach')?". The measure is scaled using a 1-Not at all to 7-All of the time. After reverse scoring item 4, the ratings were summed, with higher score ratings indicating more negative health outcomes. Cronbach alpha's for the subscales were .80, .83, and .88, for sleep disturbances, gastrointestinal problems, headaches, respectively in four different populations consisting of hospital staff members, social service agents, small health care setting, and university students (Schat, Kelloway, & Desmarais, 2005).

The MOS 36-Item Short Form Survey Instrument (SF-36) (Ware & Sherbourne, 1992) is comprised of 5-items, which follow the directions, "In general, would you say that your health is…". The scale consisted of five categories: general health, role limitations due to emotional problems, social functioning, and energy/fatigue. There are five total questions under the "General Health" category, with an example being, "In general, would you say that your health is…". The ratings are averaged together, which represents the average of all the scales. Higher scores indicate more favorable health outcomes. Cronbach alpha's for the scale range from .78-.93 (McHorney, Ware, Lu, & Sherbourne, 1994).

**Psychological Health Outcomes.** UCLA Loneliness Scale (Version 3) created by Russell (1996) is comprised of 20-items that follow the instructions, "The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided." Items included in the scale include "How often do you feel alone?", and "How often do you feel that there are people you can talk to?" Answers to the items are rated on a scale from 1-Never to 4-Always, with items 1, 5, 6, 9, 10, 15, 16, 19, and 20 reverse scored. The ratings for the items are summed together, with higher scores indicating a greater degree of loneliness. Russell (1996) found Cronbach alphas of .89 and .94 in four different populations including university students, nurses, teachers and the elderly, and a test-retest reliability after a one-year period of .73.

The Depression Patient Health Questionnaire PHQ-8 (Kroenke, Strine, Spitzer, Williams, Berry, & Mokdad, 2009), is comprised of 8-items with the instructional statement "Over the last four weeks, how often have you been bothered by any of the following problems?". Statements include examples such as, "Little interest or pleasure in doing things," "Feeling tired or having little energy," and "Poor appetite or overeating." Items were rated on a 0-Not at all to 3-Nearly everyday scale, and summed with higher scores indicating a higher prevalence of depressive symptoms. Research conducted by Smarr and Keefer (2011) found Cronbach alphas of .89 and .86, and test-retest correlations of .84-.95 after 48 hours and .81-.96 after seven days. Criterion validity was assessed through a significant correlation of .73 with the BDI scale in the general population. Further evidence for criterion validity was established through a strong correlation between the PHQ and the SF-20, whose correlations ranged from .63-.70.

The Hopkins Symptom Checklist (HSCL) Anxiety Scale (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) is comprised of 6-items with the instructional statement, "How have

you felt during the past four weeks, including today?" The scale is measured using a 1-Not at all to 4-Extremely graduated system, where the scores are averaged, with higher scores indicating a higher prevalence of anxiety experienced by the individual. Derogatis and colleagues (1974) found a Cronbach alpha of .84 and a one-week test-retest reliability of .75 in psychiatric and normal populations. An interrater reliability score was analyzed and found a correlation of .67.

The PTSD Checklist- Civilian Version (PCL-C) (Weathers, Litz, Herman, Huska, & Keane, 1993) is comprised of 17-items that follow the statement, "How much have you been bothered by each of the following in the PAST 30 DAYS? Please select ONE response per row." Items incorporated in the scale include statements such as, "Repeated, disturbing memories, thoughts or images of a stressful experience from the past?", "Troubles falling or staying asleep?", and "Loss of interest in things that you used to enjoy?" The measure responses that range from 1-Not at all to 5-Extremely are summed, with higher scores indicating a higher prevalence of PTSD present in the individual. Campbell et al. (1999) found a Cronbach alpha of .95 and a one-week test-retest reliability of .88 and .75 in two different populations.

**Stress-Related Health Outcomes.** The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) is comprised of 10-items. Statements included in this measure begin with the statement, "In the last month, how often have you..." and continue with various perceived stress exemplars. The measure is itemized on a scale from 0-Never to 4-Very often, with items 4, 5, 7, and 8 reversed scored. Ratings on items are summed, with higher scores indicating higher perceived stress. Cohen, Kamarck, and Mermelstein (1983) found Cronbach alphas of .84, .85, and .86 in three different populations, two college students, and one heterogeneous smoking-cessation program group. Correspondingly, they found a test-retest correlation of .85 after two days and .55 after six weeks.

The University Student Stress Scale (USS) (Burge, 2009), is comprised of 23-items, which follow the instruction "With regards to studying at a university, how stressful do you find each of the following?" rated on a 0 "Not at all" to 6 "Extremely" rating scale. The 23-items were summed and load statistically onto the three factors: Academic-related Stress, Time-related Stress, and Social/Environmental-related Stress, after averaging the responses. Academic-related Stress factor contains six items, which range from "taking examinations" to "expectations from self to do well." This factor has a Mean of 3.09 and a Cronbach's alpha of .74 (Burge, 2009). The Time-Related Stress factor is comprised of six items, including the phrase "Lack of free/leisure time," with a Mean of 2.82, and a Cronbach's alpha of .81. The final factor, Social/Environmental-related Stress, is comprised of nine items, with phrases consistent with "Transportation," "Learning new skills," and "Adjusting to the campus environment," with a Mean of 1.98, and a Cronbach's alpha of .79.

**Demographic Variables.** The researcher was interested in examining various demographic variables including, age, ethnicity, sex, gross annual income and household income, the number of children and relationship status. In measuring age, the researcher provided the participant with an open-ended text box so that the participant could type in their exact age. Ethnicity was examined using the qualifiers, Asian/Pacific Islander, Black/African-American, Hispanic/Latino, White/Caucasian, or Other/Multiple ethnicities. In regards to the participants' sex, they were given a choice between male and female. Approximate gross annual income and household income were rated using a scale from Under $10,000 to Over $150,000. Similar to age, the number of children was an open-ended response. Finally, to inquire on the participants' relationship status, the research indicated seven choices for the participant to choose from. Those included, Single, In a Relationship, Married, Separated, Divorced, Widowed, and

Cohabitating. Demographic questions specific to participants who are military personnel were included and are as follows: Active duty status, years served, service branch and rank, the number of deployments, deployment type and environment, future deployment expectations, physical injuries incurred, diagnosis of PTSD, and VA disability rating.

## Results

Hypothesis 1.1, which focused on military status, examined three aspects of reintegration into society and college life. These variables were evaluated and included perceptions regarding the level the veterans were respected and understood, their challenges transitioning, and differences between themselves and their peers. In regards to the level of reverence and understanding veterans receive, two statements received the most positive responses. These statements included, “Overall, I feel that my military friends and family really understand and identify with me” (78.4%) and “Overall, I feel the faculty and staff respect my military service to the nation” (72.5%). The statement that received the least responses stated, “Overall, I feel that my fellow students really understand and identify with me” (25.5%) (Table 1).

Veterans also indicated several challenges transitioning to college life subsequent to military service. The two top rated challenges include “Financial concerns” (68.6%) and “Stress” (68.6%), whereas, the two lowest rated being “Getting accepted to college” (11.8%) and “Feeling safe (standing down from combat training)” (9.8%). Veterans specified several indicators that set them apart from their fellow college peers. The majority of the participants rated “Experience” (84.3%) and “Attitude/Bearing” (76.5%) as the most compelling differences, with 3.9% of the military participants indicating “No Difference.” All issues and concerns re-integrating and transitioning back into society are included in Graph 1 and 2.

*Bivariate Relationships*

Pearson correlations were computed for each variable social connectedness, social support, PTSD, depression, loneliness, anxiety, physical health, general health, perceived stress, university stress, ethnicity, sex, relationship status, household income, and military status to test relationships with one another. Significant correlations and their coefficients are reported in Table 2.

Social connectedness was negatively correlated with PTSD [$r(263) = -.45$, $p < .001$], loneliness [$r(266) = -.30$, $p < .001$], anxiety [$r(275) = -.32$, $p < .001$], depression [$r(275) = -.48$, $p < .001$], physical health [$r(269) = -.34$, $p < .001$], perceived stress [$r(282) = -.17$, $p < .01$], and university stress [$r(273) = -.31$, $p < .001$]. Social connectedness was positively correlated with social support [$r(267) = .45$, $p < .001$], MOS [$r(258) = .46$, $p < .001$]. Social support was positively correlated with MOS [$r(258) = .33$, $p < .001$]; while negatively correlated with PTSD [$r(261) = -.40$, $p < .001$], loneliness [$r(260) = -.22$, $p < .001$], anxiety [$r(271) = -.26$, $p < .001$], depression [$r(271) = -.30$, $p < .001$], physical health [$r(265) = -.19$, $p < .01$] and university stress [$r(264) = -.14$, $p < .01$]. Through these bivariate analyses, social connectedness emerged as a strong predictor of all the physical, psychological and stress-related health outcome variables.

Analyses of Variance (ANOVAs) were computed to test for group differences and compare means for categorical demographic variables (ethnicity, sex, relationship status, household income and veteran status) and connectedness, support, physical health, psychological health and stress-related health. All means and standard deviations for the groups are reported in Table 3 for social and psychological health and Table 4 for physical and stress-related health.

Results showed that females reported experiencing worse physical health [$F(1, 270) = 5.27$, $p < .05$] than men; women also reported experiencing more stress-related health outcomes

including perceived stress [$F$ (1, 279) = 20.39, $p < .001$] and university stress [$F$ (1, 270) = 17.28, $p < .001$]. Men, however, noted experiencing better physical health through the MOS [$F$ (1, 262) = 6.48, $p < .05$]. No other gender differences were significant.

Participants with a lower household income reported having more anxiety [$F$ (2, 275) = 3.52, $p < .05$]. Individuals who were currently in a relationship were less lonely than their non-relationship counter parts [$F$ (1, 266) = 6.04, $p < .05$]. Military status was assessed and found that participants who were military personnel had less university stress [$F$ (1, 271) = 5.16, $p < .05$], perceived stress [$F$ (1, 280) = 8.18, $p < .01$] and are less lonely [$F$ (1, 267) = 5.75, $p < .05$] compared to the non-military personnel. No other demographic effects were significant.

*Hypothesis Testing*

The second portion of hypothesis one examined the relationship between military status and the social and health variables. Several Analysis of Variance (ANOVA) were conducted. It was hypothesized that military status would negative predict social connectedness, social support and physical and psychological health, while positively predicted the stress-related health outcomes. Military status was significantly associated with perceived stress [$F$ (1,280) = 8.18, $p < .01$], university stress [$F$ (1,271) = 5.16, $p < .05$] and loneliness [$F$ (1,267) = 5.75, $p < .05$]. Contrary to the researchers expectations, nonmilitary individuals (civilians) had significantly higher perceived stress ($M$ = 22.74), university stress ($M$ = 65.68) and loneliness ($M$ = 55.16). Implications and possible explanations are described in more detail in the discussion. No other significant differences were found to be associated with military status.

Hypothesis two investigated social connectedness' association with health outcomes. Hierarchical linear regression analyses were conducted for each health outcome, psychological, physical and stress-related health, respectively. First, sociocultural & veteran status variables

including gender, relationship status, socioeconomic status and military status, were controlled and regressed onto social connectedness.

As shown in Table 5, social connectedness emerged as a strong predictor for all of the psychological health variables. Higher degrees of social connectedness were associated with lower degrees of post-traumatic stress ($\beta = -.43$, $p < .001$), anxiety ($\beta = -.30$, $p < .001$), loneliness ($\beta = -.28$, $p < .001$) and depression symptoms ($\beta = -.47$, $p < .001$). In other words, the more social connectedness an individual possessed, the better his or her psychological health. Sociocultural factors explained only 3% of the variance in PTSD ratings; whereas, social connectedness accounted for 18% of the variance, for a total model $R^2$ of 22% ($p < .001$). For anxiety, step one explained 3% of the variance while step two explained 9%, with a total model $R^2$ totaling 13% ($p < .001$). Likewise, in participants' loneliness ratings social connectedness accounted for an overall change in $R^2$ of 8% ($p < .001$). Finally, the last psychological variable assessed with social connectedness was depression. Analyses indicated that the sociocultural factors of model one explained only 4% of the variance, while social connectedness accounted for 21%, total model $R^2$ change was 24% ($p < .001$).

Social connectedness was also regressed on physical health variables including physical health and MOS-general health (Table 6). Like the psychological health factors, higher rates of social connectedness were predicted to increase overall health. Results indicated that social connectedness did in fact lead to lower physical health concerns ($\beta = -.33$, $p < .001$) and general health issues as measured by the MOS ($\beta = -.30$, $p < .001$). Sociocultural factors explained only 3% of the variance in physical health ratings; whereas, social connectedness accounted for 11% of the variance, for a total model $R^2$ of 14% ($p < .001$). For general health,

model one explained 4% of the variance while model two explained 22%, with a total model $R^2$ totaling 26% ($p < .001$).

The final analysis in hypothesis two investigated social connectedness' relationship with stress-related health outcomes (Table 7). It was hypothesized that higher degrees of social connectedness would produce lower amounts of stress and stress-related health outcomes such as perceived stress ($\beta = -.18$, $p < .01$) and university stress ($\beta = -.31$, $p < .001$). In accordance with the psychological and physical health hierarchical linear regressions, the sociocultural factors of gender, relationship status, socioeconomic status and military status explained 10% of the variance in perceived stress ratings; whereas, social connectedness accounted for 3% of the variance, for a total model $R^2$ of 14% ($p < .01$). For university stress, model one explained 8% of the variance while model two explained 9%, with a total model $R^2$ totaling 17% ($p < .001$). These aforementioned analyses provide ample support of social connectedness' powerful and impactful influence on all areas of an individual's health.

To test hypothesis three, each category or model was tested separately. Category one of hypothesis three is the buffering hypothesis model. This model examines social supports role as a moderator between the predictor variable stress and the outcome variable physical health. For this study, the buffering hypothesis was analyzed via a hierarchical linear regression. The results indicated that the buffering hypothesis was not significant (interaction $\beta = .14$, $p > .05$) (Shown in Table 8). Social support was not a significant moderator or buffer of the negative effects of stress on an individual's physical health.

The second category in hypothesis three, the main effect model, was examined utilizing a hierarchical linear regression. The main effect model states that social support should significantly predict an individual's level of physical and psychological health regardless of the

individual's stress level. It is hypothesized that the more social support an individual possess, the better his or her health. Gender, relationship status, military status, socioeconomic status and perceived stress were tested as confounds. Results indicated that social support was significantly associated with general health (MOS) [$\beta = .36$, $p < .001$], physical health [$\beta = -.19$, $p < .001$] PTSD [$\beta = -.37$, $p < .001$], anxiety [$\beta = -.23$, $p < .001$], loneliness [$\beta = -.20$, $p < .01$] and depression [$\beta = -.28$, $p < .001$]. The strength of the associations were very strong, with social support accounting for 12%, 3%, 12%, 39%, 3%, and 7% of the variance of the dependent variable, respectively, holding constant the sociodemographic variables, military status, and perceived stress (Table 9).

Hypothesis four, predicted a mediation model with military status, social connectedness, loneliness, perceived stress and health outcomes. This model was analyzed using Hayes' Serial Multiple Mediator Model software (Hayes, 2013). It was hypothesized that military status would negatively predict physical and psychological health when mediated by social connectedness, loneliness, and perceived stress. Unfortunately, due to the non-significant association between military status and social connectedness (found in the first hypothesis) the researcher was unable to compute the Serial Multiple Mediator Model. Implications for this computation inability are discussed in detail in the following section.

## Discussion

The current investigation examined the associations between social connectedness and social support with health outcomes in university students. These factors were examined to see if students with military experience and students without military experience differ in their social connectedness and social support, and how this difference affects their physical, psychological

and stress-related health. This research also confirmed major differences between veteran and non-veteran students and their struggles reintegrating back into society.

A descriptive approach was used to examine exactly how veteran students feel they differ from their fellow classmates and what specific issues they encounter reintegrating back into society and college life. The researchers found that from the military population sampled, a large percentage were chiefly concerned with financial stability and stress. They also believed themselves to be different from their peers in their amount and types of experiences and attitude or bearing. Our results are consistent with those found by Vanderploeg et al. (2012), Smith et al. (2009), Sundin et al. (2014), Vacchi (2012) and others, who analyzed veterans' post-deployment and military service. They recognized key differences between prior service members and their civilian counterparts. This study found that veterans at the University of North Florida feel that they are respected by their faculty, which is an encouraging discovery. Although the veterans felt esteemed by their professors, they did not indicate feeling, to the same magnitude, as though they identified with or were understood by their civilian peers. A follow up study should be conducted to analyze the factors that correspond with military personnel feeling respected and those factors that are lacking in order for veterans to feel fully understood and identify with their peers.

In contrast with the current literature which has established that veterans returning from deployment possess a myriad of physical and psychological health concerns (Vanderploeg, et. al, 2012), hypothesis one was not fully supported for the relationship between military status, social connectedness, social support, and health outcomes. The only significant associations with military status were perceived stress, university stress and loneliness. In contrast with the current literature on the various negative effects of military status on health, this study found that service members who completed the study, actually scored lower on their levels of perceived stress,

university stress and loneliness compared to their civilian peers. One explanation for this deviation from the literature could be due to the University of North Florida's Military and Veterans Resource Center (MVRC). UNF was the only university in Florida to be nationally ranked by U.S. News and World Report as Number thirty-two for "Best College for Veterans". A section of the Military and Veterans Resource Center's mission statement states, "The MVRC is committed to ensuring that military and veteran students successfully make the transition from the military environment to campus life, and are assisted in their progress toward completing their academic degree." It is highly likely that the reasoning behind why the veterans who completed this study had better psychological, physical and stress-related health, compared to their civilian peers, is due in part to the MVRC and the resources and support it provides to the veteran students.

Unlike hypothesis one, hypothesis two was fully supported and was consistent with previous findings that social connectedness proves to be a powerful protecting factor for psychological, physical and stress-related health outcomes. Social connectedness was negatively correlated with PTSD, loneliness, anxiety, depression, physical health, general health, perceived stress and university stress. These results suggest that individuals with more connectedness also have less psychological, physical and stress-related health concerns and symptoms (Williams & Galliher, 2006). Social connectedness was especially predictive of general health, depression and PTSD. This relationship could be due to the fact that social connectedness is shaped by societal norms that dictate the types of behaviors and thoughts an individual expresses (Baumeister & Leary, 1995). Social connectedness also serves the cognitive function of monitoring and revealing an individual's perception of their niche in society, therefore making it more likely that they will behave in socially acceptable ways.

The three factors of general health, depression and post-traumatic stress, all have a potent cognitive rumination function, similar to that of social connectedness. One of the major components of depression and PTSD is the constant cognitive rumination of the traumatic or depressing event. Individuals who experience these psychological subclinical disorders may find themselves constantly repeating and visualizing the traumatizing or depressing event. High rates of social connectedness could buffer or protect an individual from making negative evaluations that would lead to depression or PTSD, by priming positive cognitive processes associated with an individual's feeling of belonging (Baumeister & Leary, 1995). These results are similar with Lee, Keough and Sexton's (2002) and Hawkley and Cacioppo's (2010) findings in which social connectedness was a protective factor against the negative effects of stress and poor mental health including anxiety, depression and loneliness. Hypothesis two demonstrates the extensiveness of one's global social orientation and its pervasiveness as a protective factor against negative health outcomes (Lee & Robbins, 1995).

The third hypothesis which emphasized social supports role on health outcomes was analyzed through Cohen and Willis' (1985) main effect and stress-buffering models. Results indicate that the third hypothesis was partially supported. Analyses found that the stress-buffering model of social support was not significant in this study, meaning that social support did not moderate the effects of stress on an individual's health. A reason for the buffering hypothesis' nonsignificant finding could be due to what Cohen and McKay (1984) conclude. They determined that social support works as a buffer for the ill-effects of stress, but only if the support meets the needs of the individual at the time. In other words, social support is a buffer for stress only, if the individual feels it meets their psychological needs.

The social support main effect model was significant for psychological and physical health. Social support was especially predictive of post-traumatic stress, anxiety and general health outcome variables. Similar to the findings by Cohen and Willis (1985), social support had a significantly beneficial effect on an individual's well-being even when controlling for stress. This indicates that social support is employed in an individual's everyday life and can lead to various positive experiences via one's social networks instead of only being utilized when an individual is under stress or pressure. These results are contrary to the majority of the current literature which primarily focuses on the stress-buffering model over the main effect model. This study confirmed that the main effect model better predicts health, due to incorporating an individual's social influences, therefore, affecting their normative health behavior by increasing one's motivation for self-care. This process of self-care in regards to health conscious behaviors, in consequence, improves their health outcomes.

Unfortunately, this study was unable to compute the fourth hypothesis due to the lack of association between military status and social connectedness, making the military mediation model invalid. There are several reasons why this non-significance between military status and social connectedness occurred. One reason could be due to the small sample size of the study. Out of 301 participants, only 51 of them were military personnel. An alternative explanation could be due to the fact that the military participants were not randomly sampled from the military population; instead, a convenience sampling was performed. According to Shadish, Cook, and Campbell (2002), convenience samples are considered an accurate and valid sampling method when conducting research. The final alternative, as stated previously, could be the influence of the Military and Veteran Resource Center at UNF. The center is able to provide

military personnel ample support and connection through the various resources they offer, including a full-time transition coach, social gatherings and informational meetings.

*Limitations and Future Directions*

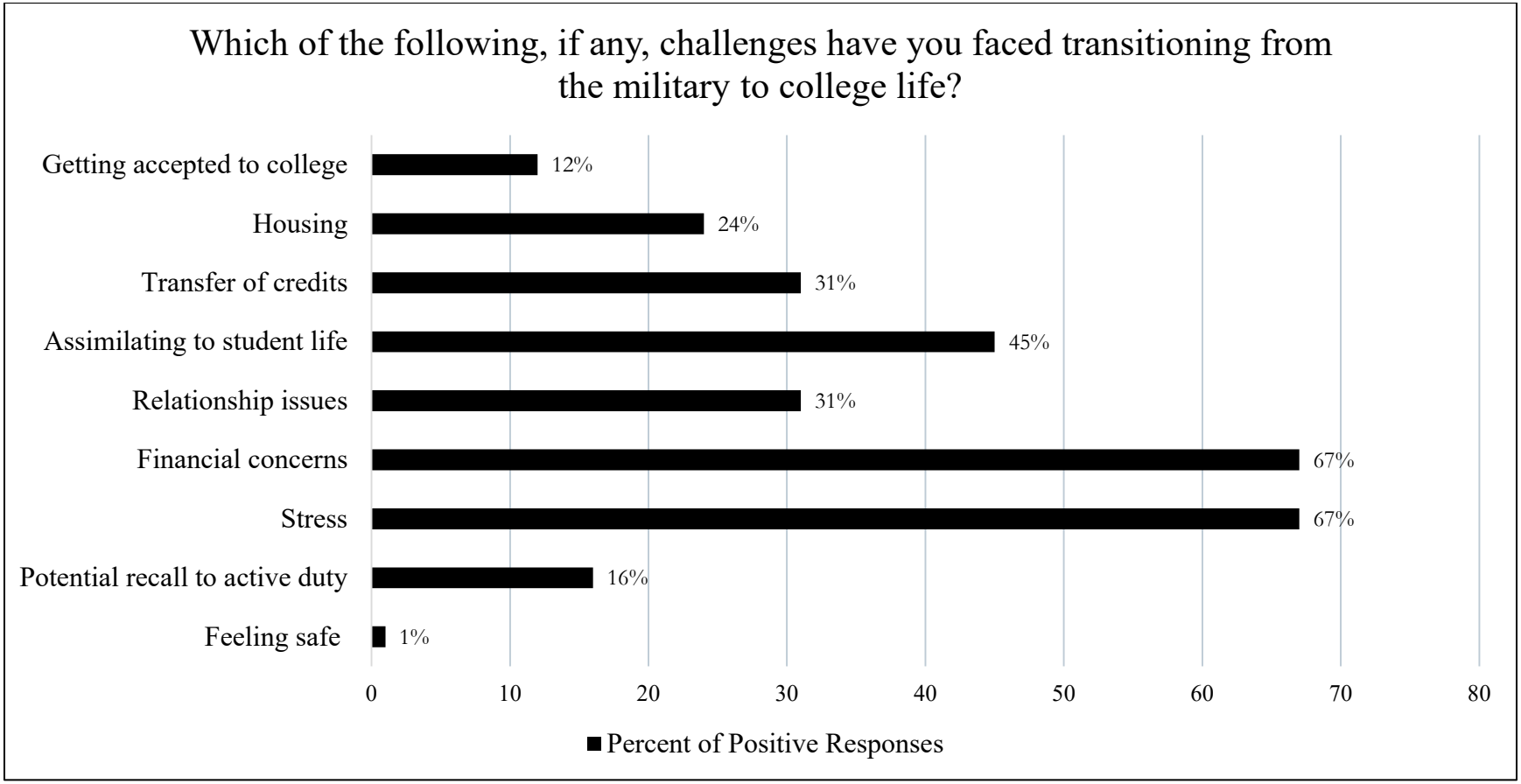
Since this study follows the correlational research design, there are several internal validity concerns. The first primary concern is the inability to make causal statements, due to poor temporal precedence and third variables. These limitations can be reduced by conducting statistical analyses while controlling for confounding variables (Shadish, Cook & Campbell, 2002). The confounding variables controlled for in this study were the sociodemographic variables: gender, SES, military status and relationship status. Another limitation of this design is the small sample of veterans. In order to have more statistical power, a large sample size should be utilized, however, fifty-one participants in a group is considered a valid participant number. A third limitation to this convenient sample correlational design is the amount of measures included. It is possible that the participants grew fatigued as the study progressed, thus decreasing the power and accuracy of the data (Shadish, Cook & Campbell, 2002). Finally, participants in this study were comprised of high-functioning military individuals who can compartmentalize their academic and military roles efficiently. If alternative samples were assessed that possess participants other than strictly high functioning individuals, the results could be radically altered.

Future studies should analyze military student's psychological, physical and stress-related health outcomes overtime to strengthen the causal associations between the variables. Future studies should also replicate these findings in other universities that vary in the amount of resources provided to the military personnel (i.e. resource centers, information packets, etc.) to more accurately depict their impact on student veteran health.

*Conclusions*

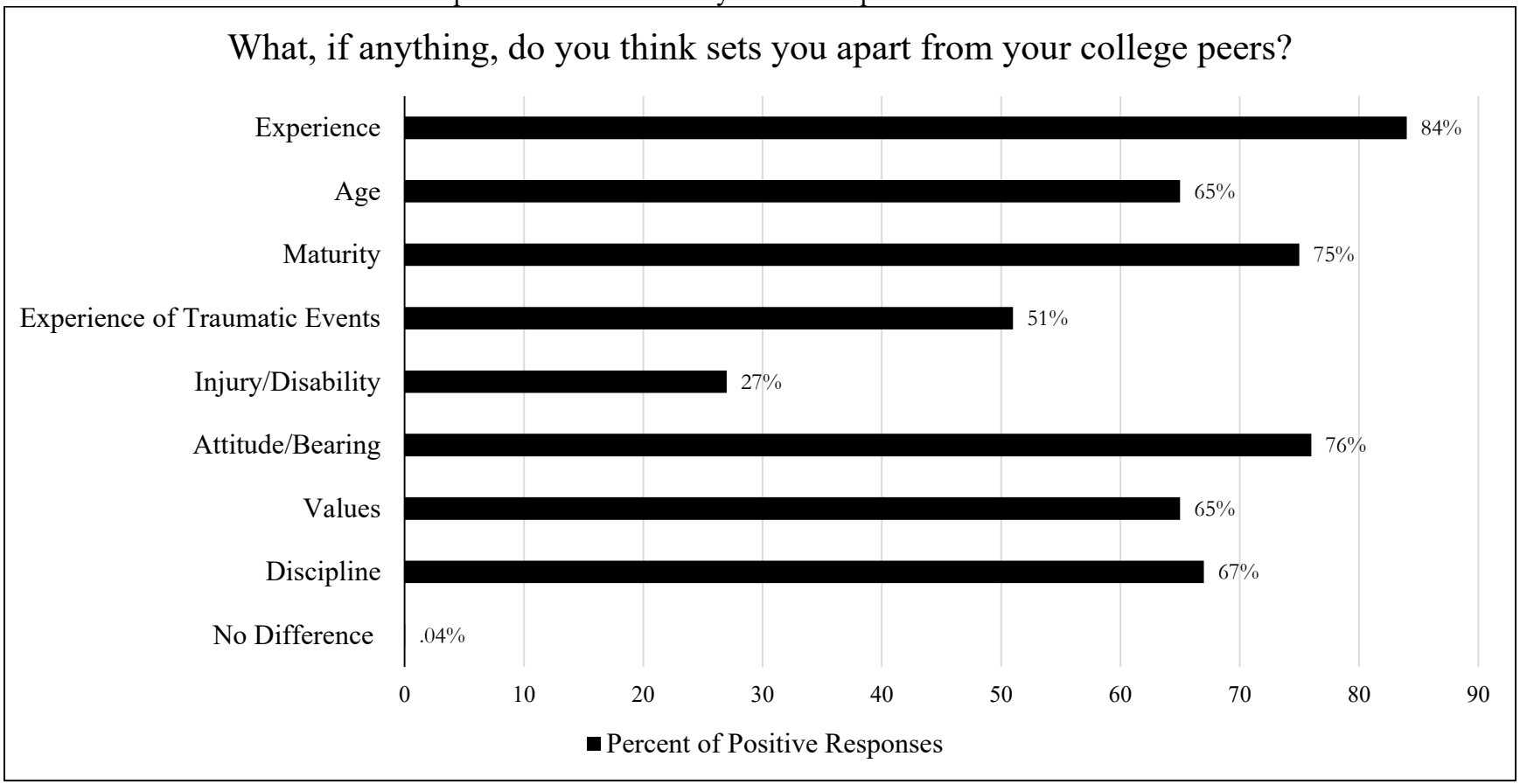
As predicted, military students positively indicated several transitional issues including financial stability and stress, while also designating several key differences they feel make them unique from their civilian peers. Although military participants in this study specified several difficulties they experienced while transitioning to higher education, overall, they experienced better health than their civilian peers. These findings do not correspond with the current literature that states that veterans experience issues above and beyond their peers (Vanderploeg et al., 2012; Smith et al. 2009; Sundin et al., 2014; & Vacchi, 2012). This study established that social connectedness is a robust predictor of all three forms of health, especially PTSD, depression and general health. This study furthered the psychological literature on social supports' influence on health, revealing that social support better predicts health in everyday life, more so than when an individual only experiences stress. Although the military mediation model was not supported in this study, using this research to build a more comprehensive model will provide a better understanding of the struggles veterans experience and the unique characteristics that set them apart from their peers and lead to more effective interventions aimed at improving military students' overall higher education experience.

Graph 1. Military Student's Challenges Transitioning to College Life




*Note:* Graph indicates a multiple response option. Percent's are greater than 100%. Responses out of 51 Military participants.

Graph 2. What Sets Military Students Apart from Their Peers.




*Note:* Graph indicates a multiple response option. Percent's are greater than 100%. Responses out of 51 Military participants.

Table 1. Military Personnel's Troubles Re-integrating to College Life.

| *Statement* | *Average, SD* | *% Agree/Strongly Agree* |
|---|---|---|
| Level Respected/Understood | | |
| Overall, I feel the faculty and staff respect my military service to the nation. | 3.88, 1.13 | 72.5% |
| Overall, I feel my fellow students respect my military service to the nation. | 3.67, 1.03 | 56.8% |
| Overall, I feel that faculty and staff really understand and identify with me. | 2.98, 1.16 | 29.4% |
| Overall, I feel that my fellow students really understand and identify with me. | 2.80, 1.13 | 25.5% |
| Overall, I feel that my civilian family and friends really understand and identify with me. | 3.04, 1.28 | 45.1% |
| Overall, I feel that my military friends and family really understand and identify with me. | 4.04, 1.31 | 78.4% |

*Note:* Percentages indicate strongly agree and agree responses only. Measure on 1-5 scale, with higher scores indicating more agreement.

Table 2. Pearson Correlations on Social, Psychological, Physical, and Stress-Related Health Outcome Variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Social Connectedness | | | | | | | | | | |
| 2. Social Support | .45*** | | | | | | | | | |
| 3. PTSD | -.45*** | -.40*** | | | | | | | | |
| 4. Anxiety | -.32*** | -.26*** | .60*** | | | | | | | |
| 5. Loneliness | -.30*** | -.22*** | .33*** | .22*** | | | | | | |
| 6. Depression | -.48*** | -.30*** | .67*** | .60*** | .28*** | | | | | |
| 7. Physical Health | -.34*** | -.19** | .65*** | .48*** | .25*** | .58*** | | | | |
| 8. MOS | .46*** | .33*** | -.62*** | -.52*** | -.24*** | -.73*** | -.60*** | | | |
| 9. Perceived Stress | -.17** | -.03 | .34*** | .26*** | .18** | .36*** | .39*** | -.34*** | | |
| 10. University Stress Scale | -.31*** | -.14** | .34*** | .37*** | .28*** | .44*** | .38*** | -.41*** | .40*** | -.40*** |

*Note*: * $p<.05$, ** $p<.01$, *** $p<.001$

Table 3. Average Social and Psychological Health Constructs by Sociodemographic Variables

| | | *Social Connectedness* | | *Social Support* | | *PTSD* | | *Anxiety* | | *Loneliness* | | *Depression* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | n | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| | 279 | | | | | | | | | | | | |
| Ethnicity | 199 | 28.88 | 8.91 | 62.14 | 14.50 | 39.39 | 15.03 | 8.31 | 3.16 | 54.85 | 4.51 | 8.42 | 5.69 |
| White | 26 | 29.46 | 8.38 | 62.99 | 12.06 | 38.95 | 14.76 | 8.15 | 3.05 | 54.93 | 4.42 | 8.14 | 5.60 |
| Black | 29 | 30.42 | 8.91 | 91.42 | 17.09 | 40.48 | 14.07 | 8.08 | 3.00 | 54.84 | 4.05 | 8.15 | 4.81 |
| Latino | 25 | 25.36 | 10.76 | 58.07 | 17.65 | 40.48 | 16.34 | 8.84 | 3.47 | 54.81 | 4.19 | 9.82 | 6.86 |
| Other/Multiple | | 26.70 | 8.19 | 60.88 | 13.83 | 40.73 | 17.50 | 9.21 | 3.16 | 54.25 | 6.02 | 9.40 | 5.87 |
| Sex | 279 | 28.85 | 8.90 | 62.14 | 15.08 | 39.41 | 15.03 | 8.32 | 3.15 | 54.84 | 4.50 | 8.44 | 5.69 |
| Female | 216 | 28.82 | 8.84 | 63.58** | 14.86 | 39.90 | 14.78 | 8.51 | 3.13 | 55.07 | 4.49 | 8.66 | 5.74 |
| Male | 63 | 28.96 | 9.18 | 57.27 | 14.95 | 37.72 | 15.85 | 7.68 | 3.16 | 54.03 | 4.48 | 7.65 | 5.60 |
| Committed Relationship | 280 | 28.86 | 8.91 | 62.30 | 15.01 | 39.33 | 15.00 | 8.29 | 3.14 | 54.85 | 4.51 | 8.43 | 5.69 |
| Yes | 153 | 29.01 | 8.93 | 65.35*** | 13.86 | 38.14 | 15.60 | 8.12 | 3.04 | 84.24* | 4.58 | 8.20 | 5.62 |
| No | 127 | 28.69 | 8.93 | 58.45 | 15.56 | 40.82 | 14.15 | 8.49 | 3.27 | 55.59 | 4.32 | 8.70 | 5.79 |
| Military | 351 | 28.85 | 8.60 | 62.19 | 15.08 | 39.39 | 14.99 | 8.31 | 3.15 | 54.85 | 4.50 | 8.43 | 5.68 |
| Yes | 51 | 27.43 | 10.16 | 62.02 | 15.56 | 39.77 | 15.21 | 8.01 | 2.46 | 53.47 | 4.21 | 8.73 | 5.77 |
| No | 230 | 29.16 | 8.59 | 62.23 | 15.01 | 39.30 | 15.00 | 8.37 | 3.15 | 55.16* | 4.51 | 8.37 | 5.68 |
| Household Income | 276 | 28.83 | 8.92 | 62.14 | 15.06 | 39.32 | 14.91 | 8.30 | 3.16 | 54.82 | 4.52 | 8.39 | 5.61 |
| <$10k | 47 | 27.45 | 8.85 | 58.98 | 15.75 | 40.91 | 13.87 | 9.01**[a] | 3.38 | 55.53 | 4.25 | 9.49*[a] | 5.60 |
| $10k-$50k | 108 | 28.30 | 8.66 | 61.56 | 15.15 | 40.66 | 14.31 | 8.61 | 3.42 | 55.03 | 4.70 | 8.94 | 5.31 |
| >$50k | 121 | 29.85 | 9.13 | 63.95* | 14.56 | 37.50 | 15.74 | 7.76[b] | 2.74 | 54.37 | 4.44 | 7.45[b] | 5.77 |

*Note*: * $p<.05$, ** $p<.01$, *** $p<.001$

Table 4. Average Physical Health and Stress-Related Health Constructs by Sociodemographic Variables

| | | *Physical Health Questionnaire* | | *MOS* | | *Perceived Stress* | | *University Stress Scale* | |
|---|---|---|---|---|---|---|---|---|---|
| Variable | n | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Ethnicity | 279 | 38.06 | 11.01 | 681.60 | 253.81 | 22.47 | 3.49 | 64.31 | 21.22 |
| White | 199 | 38.16 | 10.78 | 671.61 | 245.77 | 22.46 | 3.56 | 64.30 | 20.99 |
| Black | 26 | 36.12 | 11.65 | 764.91 | 220.62 | 21.50 | 2.96 | 59.96 | 23.62 |
| Latino | 29 | 37.89 | 12.43 | 689.62 | 312.82 | 22.10 | 3.39 | 58.55 | 20.87 |
| Other/Multiple | 13 | 39.57 | 10.99 | 661.48 | 253.81 | 23.96 | 3.23 | 75.96 | 21.22 |
| Sex | 279 | 38.11 | 10.98 | 680.07 | 253.39 | 22.48 | 3.48 | 286.59 | 286.59 |
| Female | 216 | 38.93* | 10.56 | 658.12 | 250.61 | 22.97*** | 3.25 | 71.90*** | 286.66 |
| Male | 63 | 35.30 | 12.00 | 750.88* | 251.30 | 20.79 | 3.74 | 109.87 | 296.97 |
| Committed Relationship | 280 | 38.02 | 10.99 | 681.68 | 253.77 | 22.47 | 3.48 | 64.41 | 21.17 |
| Yes | 153 | 38.58 | 11.05 | 673.55 | 254.55 | 22.78 | 3.39 | 63.72 | 21.85 |
| No | 127 | 37.34 | 10.93 | 691.68 | 253.50 | 22.10 | 3.56 | 65.25 | 20.36 |
| Military | 301 | 38.06 | 10.99 | 681.10 | 253.46 | 22.46 | 3.48 | 64.32 | 21.19 |
| Yes | 51 | 37.38 | 9.53 | 693.89 | 275.58 | 21.22 | 4.11 | 58.14 | 21.64 |
| No | 230 | 38.06 | 11.29 | 678.24 | 248.85 | 22.74*** | 3.27 | 65.68* | 20.89 |
| Household Income | 276 | 38.15 | 10.98 | 681.30 | 250.72 | 22.47 | 3.45 | 64.32 | 21.14 |
| <$10k | 47 | 38.70 | 10.31 | 652.71 | 256.33 | 22.72 | 3.18 | 66.45 | 26.93 |
| $10k-$50k | 108 | 39.48 | 10.98 | 662.44 | 247.78 | 22.79 | 3.70 | 64.87 | 20.75 |
| >$50k | 121 | 36.68 | 11.14 | 708.95 | 250.63 | 22.09 | 3.31 | 62.97 | 18.53 |

*Note*: * $p<.05$, ** $p<.01$, *** $p<.001$

Table 5. Summary of Hierarchical Linear Regression Analysis on Sociocultural and Veteran Variable Predictors of Psychological Health

| | Psychological Health Variables | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | PTSD | | Anxiety | | Loneliness | | Depression | |
| Variable | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s |
| Step 1 | | | | | | | | |
| Sociocultural &Veteran Status | | | | | | | | |
| Gender | -.06 | -.07 | -.11 | -.10 | -.07 | -.07 | -.09 | -.08 |
| Relationship Status | .83 | .08 | .07 | .07 | .12 | .12 | .03 | .04 |
| Socioeconomic Status | -.14* | -.11 | -.16** | -.15 | -.07 | -.10 | -.19** | -.16 |
| Military Status | .04 | .04 | -.01 | .002 | -.13* | -.12 | .04 | .05 |
| $R^2$ | .03 | | .04* | | .05* | | .04* | |
| Step 2 | | | | | | | | |
| Social Connectedness | -.43*** | -.44 | -.30*** | -.30 | -.28*** | -.29 | -.47*** | -.49 |
| $R^2$ | .22*** | | .13*** | | .13*** | | .24*** | |
| $\Delta R^2$ | .18*** | | .09*** | | .08*** | | .21*** | |

*Note*: Standardized *β*'s reported. * $p<.05$, ** $p<.01$, *** $p<.001$

Table 6. Summary of Hierarchical Linear Regression Analysis on Sociocultural and Veteran Variable Predictors of Physical Health

| | Physical Health Variables | | | |
|---|---|---|---|---|
| | Physical Health | | MOS | |
| Variable | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s |
| Step 1 | | | | |
| Sociocultural &Veteran Status | | | | |
| Gender | -.15* | -.14 | -.11 | .16 |
| Relationship Status | -.04 | -.04 | .07 | .03 |
| Socioeconomic Status | -.10 | -.09 | -.16** | .09 |
| Military Status | -.01 | .001 | -.01 | -.01 |
| $R^2$ | .03 | | .04* | |
| Step 2 | | | | |
| Social Connectedness | -.33*** | -.33 | -.30*** | .48 |
| $R^2$ | .14*** | | .26*** | |
| $\Delta R^2$ | .11*** | | .22*** | |

*Note*: Standardized *β*'s reported. * $p<.05$, ** $p<.01$, *** $p<.001$

Table 7. Summary of Hierarchical Linear Regression Analysis on Sociocultural and Veteran Variable Predictors of Physical Health

| | Stress-Related Variables | | | |
|---|---|---|---|---|
| | Perceived Stress | | University Stress | |
| Variable | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s |
| Step 1 | | | | |
| Sociocultural &Veteran Status | | | | |
| Gender | -.25*** | -.24 | -.22*** | -.22 |
| Relationship Status | -.10 | -.10 | .04 | .04 |
| Socioeconomic Status | -.07 | -.06 | -.06 | -.04 |
| Military Status | -.13* | -.12 | -.11 | -.11 |
| $R^2$ | .10*** | | .08*** | |
| Step 2 | | | | |
| Social Connectedness | -.18** | -.19 | -.31*** | -.32 |
| $R^2$ | .14** | | .17*** | |
| $\Delta R^2$ | .03** | | .09*** | |

*Note*: Standardized *β*'s reported. * $p<.05$, ** $p<.01$, *** $p<.001$

Table 8. Summary of Hierarchical Linear Regression Analysis on the Social Support Buffering Hypothesis

| | Physical Health | |
|---|---|---|
| Variable | *β*'s | Partial *r*'s |
| Step 1 | | |
| Sociocultural &Veteran Status | | |
| Gender | -.17** | -.16 |
| Relationship Status | -.02 | -.02 |
| Socioeconomic Status | -.10 | -.11 |
| Military Status | .03 | .03 |
| $R^2$ | .04* | |
| Step 2 | | |
| Perceived Stress | .37*** | .37 |
| $R^2$ | .16*** | |
| Step 3 | | |
| Social Support | -.19** | -.19 |
| $R^2$ | .19** | |
| Step 4 | | |
| Social Support x Perceived Stress | .14 | .02 |
| $R^2$ | .19 | |
| $\Delta R^2$ | < .001 | |

*Note*: Standardized *β*'s reported. * $p<.05$, ** $p<.01$, *** $p<.001$

Table 9. Summary of Hierarchical Linear Regression Analysis on the Social Support Main Effect Model of Health

| | Health Variables | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PTSD | | Anxiety | | Loneliness | | Depression | | Physical Health | | General Health | |
| Variable | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s | *β*'s | Partial *r*'s |
| Step 1 | | | | | | | | | | | | |
| Sociocultural &Veteran Status | | | | | | | | | | | | |
| Gender | -.08 | -.07 | -.13* | -.13 | -.06 | -.06 | -.09 | -.09 | -.17** | -.17 | .17* | .16 |
| Relationship Status | .10 | .10 | .10 | .10 | .13* | .13 | .05 | .05 | -.02 | -.03 | .02 | .02 |
| Socioeconomic Status | -.12 | -.12 | -.17** | -.17 | -.09 | -.09 | -.16** | -.16 | -.10 | -.11 | .10 | .10 |
| Military Status | .04 | .04 | .01 | .01 | -.13* | -.13 | .04 | .04 | .03 | -.03 | .003 | .003 |
| $R^2$ | .03 | | .05** | | .06** | | .04* | | .04* | | .04* | |
| Step 2 | | | | | | | | | | | | |
| Perceived Stress | .36*** | -.34 | .23*** | .22 | .18** | .17 | .37*** | .35 | .37*** | .36 | -.29*** | -.28 |
| $R^2$ | .38*** | | .10*** | | .08** | | .16*** | | .16*** | | .12*** | |
| Step 3 | | | | | | | | | | | | |
| Social Support | -.37*** | -.38 | -.23*** | -.23 | -.20** | -.19 | -.28*** | -.29 | -.19** | -.19 | .36*** | .36 |
| $R^2$ | .52*** | | .15 | | .12** | | .23 | | .19** | | .23*** | |
| $\Delta R^2$ | .12 | | .39 | | .03 | | .07 | | .03 | | .12 | |

*Note*: Standardized *β*'s reported. * $p<.05$, ** $p<.01$, *** $p<.001$

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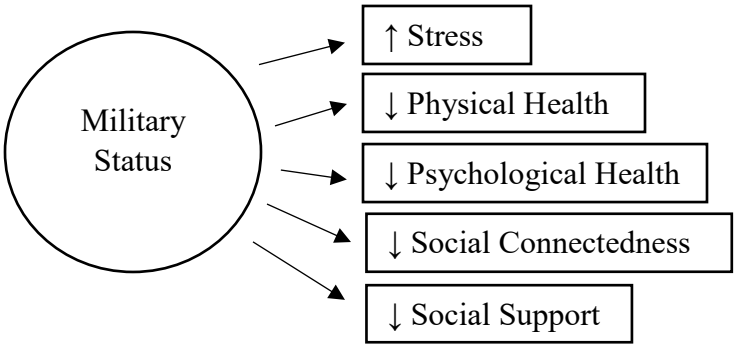
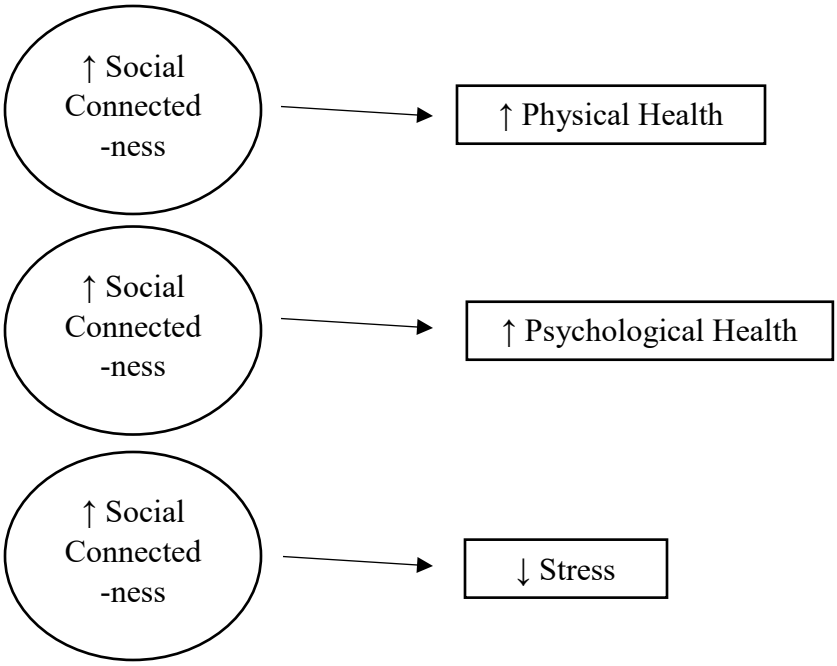
Appendix A- Thesis Hypotheses Models

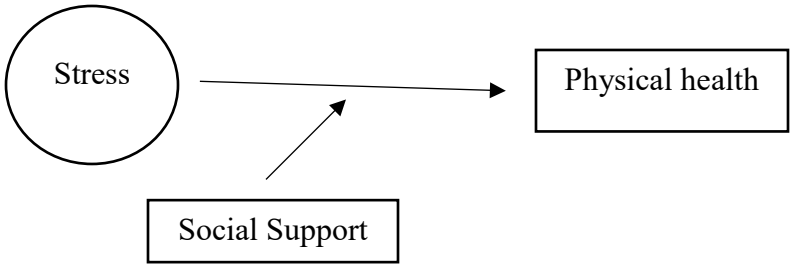
Hypothesis 1:



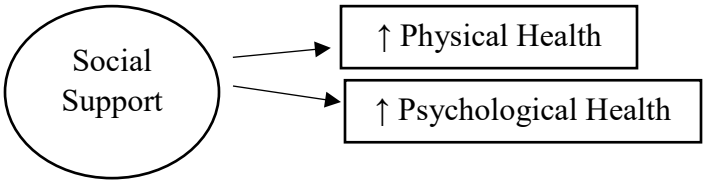



Hypothesis 3:

Category 1- Buffering Hypothesis:

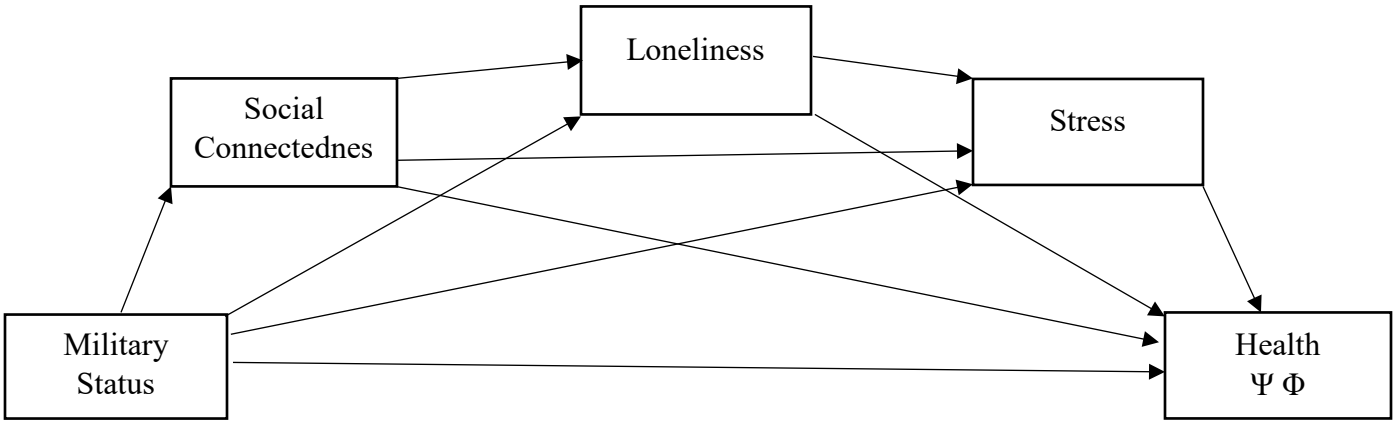



Category 2- Main Effect Model: (controlling for stress)




Hypothesis 4:

Hayes Process Mediation Model 6



# Appendix B-Measures

## College-related Questions

What is your current year or status in college?

1= Freshman
2= Sophomore
3= Junior
4= Senior
5= Second Bachelors
6= Masters
7= Doctoral
***0= Not Currently a college student → debrief***

What is your major field of study? ____ fill in the blank

GPA:

1=2.00 or lower
2= 2.00-2.49
3=2.50-2.99
4=3.00-3.50
5=3.50-4.00

First Generation College Student

1=Yes
0=No

First time college student or returning:

1= First time
2= Returning

**University student stress (USS)** Burge (2009), 22-items, 3 factors

*With regards to studying at a university, how stressful do you find each of the following?*

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| not at all | | slightly | | quite a bit | | extremely |

Academic-related Stress (6 items; *M* = 3.09/5, $\alpha$ = .74)

1. Taking examinations
2. Studying for examinations
3. Oral presentations
4. Essays/assignments
5. Expectations from self to do well
6. Waiting for results/grades

Time-related Stress (6 items; *M* = 2.82/5$\alpha$ = .81)

7. Lack of time for family and friends
8. Lack of free/leisure time
9. Time pressures/deadlines
10. Academic workload
11. Amount to learn
12. Unclear coursework requirements

Social/Environmental-related Stress (9 items; *M* = 1.98/5$\alpha$ = .79)

13. Transportation
14. Using campus facilities
15. Socializing on campus
16. Using technology
17. Working with peers
18. Expectations from others to do well
19. Learning new skills
20. Attending classes
21. Thinking about the future
22. Financial expenses
23. Adjusting to the campus environment (added)

What are the main stresses you experience as a university student (e.g. exams, finances, lecturers and tutors, assignments, etc.)? (based on Burge, 2009; Gallagher, 1990)

_____
_____
_____
_____

**Stress Self-Efficacy**

Rated: 1 = agree, 2 = slightly agree, 3 = neutral, 4 = slightly disagree, 5 = disagree

I have the ability to handle stress in my life as it occurs.

I have the tools and resources necessary to deal with stressful situations.

I recognize situations that cause me stress and can modify these situations.

I am able to take steps to reduce my feelings of stress.

I feel confident managing my stress well.

**Perceived Stress Scale**

Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress.*Journal of Health and Social Behavior*, *24*, 385-396.

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

| 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| never | almost never | sometimes | fairly often | very often |

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and "stressed"?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that happened that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high you could not overcome them?

Scoring:

Reverse scores for questions 4, 5, 7, & 8 (0 = 4; 1 = 3; 2 = 2; 3 = 1; 4 = 0)

Sum scores.

Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

Scores ranging from 0-13 are considered low stress.

Scores ranging from 14-26 are considered moderate stress.

Scores ranging from 27-40 are considered high perceived stress.

**Social Connectedness Scale**

Lee, R.M., & Robbins, S.B. (1995). Measuring belongingness: The Social Connectedness and the Social Assurance Scales. Journal of Counseling Psychology, 42(2), 232-241.

Rated: 1 = agree, 2 = slightly agree, 3 = neutral, 4 = slightly disagree, 5 = disagree

1. I feel disconnected from the world around me.
2. Even around people I know, I don't feel that I really belong.
3. I feel so distant from people.
4. I have no sense of togetherness with my peers.
5. I don't feel related to anyone.
6. I catch myself losing all sense of connectedness with society.
7. Even among my friends, there is no sense of brother/sisterhood.
8. I don't feel I participate with anyone or any group.

**UCLA Loneliness Scale (Version 3)**

Russell, D. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment, 66,* 20-40.

TABLE 1
UCLA Loneliness Scale (Version 3)

*Instructions:* The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided. Here is an example:

How often do you feel happy?

If you never felt happy, you would respond "never"; if you always feel happy, you would respond "always."

| NEVER | RARELY | SOMETIMES | ALWAYS |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

| | |
|---|---|
| *1. How often do you feel that you are "in tune" with the people around you? | _____ |
| 2. How often do you feel that you lack companionship? | _____ |
| 3. How often do you feel that there is no one you can turn to? | _____ |
| 4. How often do you feel alone? | _____ |
| *5. How often do you feel part of a group of friends? | _____ |
| *6. How often do you feel that you have a lot in common with the people around you? | _____ |
| 7. How often do you feel that you are no longer close to anyone? | _____ |
| 8. How often do you feel that your interests and ideas are not shared by those around you? | _____ |
| *9. How often do you feel outgoing and friendly? | _____ |
| *10. How often do you feel close to people? | _____ |
| 11. How often do you feel left out? | _____ |
| 12. How often do you feel that your relationships with others are not meaningful? | _____ |
| 13. How often do you feel that no one really knows you well? | _____ |
| 14. How often do you feel isolated from others? | _____ |
| *15. How often do you feel you can find companionship when you want it? | _____ |
| *16. How often do you feel that there are people who really understand you? | _____ |
| 17. How often do you feel shy? | _____ |
| 18. How often do you feel that people are around you but not with you? | _____ |
| *19. How often do you feel that there are people you can talk to? | _____ |
| *20. How often do you feel that there are people you can turn to? | _____ |

*Scoring:*
Items that are asterisked should be reversed (i.e., 1 = 4, 2 = 3, 3 = 2, 4 = 1), and the scores for each item then summed together. Higher scores indicate greater degrees of loneliness.

*Note.* 

**Depression**
**Patient Health Questionnaire PHQ-8**

Kroenke, K., Strine, T.W., Spitzer, R.L., Williams, J.B.W., Berry, J.T. & Mokdad, A.H. (2009). The PHQ-8 as a measure of current depression in the general population. Journal of Affective Disorders, 114, 163-173.

Over the last 4 weeks, how often have you been bothered by any of the following problems?
0=Not at all, 1 =Several days, 2=More than half the days, 3=Nearly every day

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying sleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual

**Hopkins Symptom Checklist (HSCL), Anxiety Scale (Cronbach's alpha=.84)**

Derogatis, L.R., Lipman, R.S., Rickels, K., Uhlenhuth, E.H., & Covi, L. (1974). The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. Behavioral Science, 19, 1-15.

How have you felt during the past 4 weeks, including today?
1 = Not at all, 2 = A little bit, 3 = Quite a bit, 4 = Extremely

1. Nervousness or shakiness inside
2. Trembling
3. Suddenly scared for no reason
4. Feeling fearful
5. Heart pounding or racing
6. Having to avoid certain places or activities because they frighten you

**PTSD CheckList – Civilian Version (PCL-C)**

Weathers, F.W., Litz, B.T., Herman, D.S., Huska, J.A. & Keane, T.M. (1993) The PTSD Checklist (PCL): Reliablity, validity, and diagnostic utility. Paper presented at the 9th Annual Conference of the ISTSS, San Antonio.

Below is a list of problems and complaints that veterans sometimes have in response to stressful life experiences. Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem in the last month.

How much have you been bothered by each of the following in the PAST 30 DAYS? Please select ONE response per row.

| No. | Response | Not at all (1) | A little bit (2) | Moderately (3) | Quite a bit (4) | Extremely (5) |
|---|---|---|---|---|---|---|
| 1. | Repeated, disturbing *memories, thoughts, or images* of a stressful experience from the past? | | | | | |
| 2. | Repeated, disturbing *dreams* of a stressful experience from the past? | | | | | |
| 3. | Suddenly *acting* or *feeling* as if a stressful experience *were happening* again (as if you were reliving it)? | | | | | |
| 4. | Feeling *very upset* when *something reminded* you of a stressful experience from the past? | | | | | |
| 5. | Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful experience from the past? | | | | | |
| 6. | Avoid *thinking about* or *talking about* a stressful experience from the past or avoid *having feelings* related to it? | | | | | |
| 7. | Avoid *activities* or *situations* because they *remind you* of a stressful experience from the past? | | | | | |
| 8. | Trouble *remembering important parts* of a stressful experience from the past? | | | | | |
| 9. | Loss of *interest in things that you used to enjoy?* | | | | | |
| 10. | Feeling *distant* or *cut* off from other people? | | | | | |
| 11. | Feeling *emotionally numb* or being unable to have loving feelings for those close to you? | | | | | |
| 12. | Feeling as if your *future* will somehow be *cut short*? | | | | | |
| 13. | Trouble *falling* or *staying asleep*? | | | | | |
| 14. | Feeling *irritable* or having *angry outbursts*? | | | | | |
| 15. | Having *difficulty concentrating*? | | | | | |
| 16. | Being *"super alert"* or watchful on guard? | | | | | |
| 17. | Feeling *jumpy* or easily startled? | | | | | |

**Physical Health Questionnaire (PHQ)**

Schat, Aaron C. H., Kelloway, E. Kevin, & Desmarais, Serge (2005). The Physical Health Questionnaire (PHQ): Construct Validation of a Self-Report Scale of Somatic Symptoms. Journal of Occupational Health Psychology, Vol 10(4), 363-381. doi: 10.1037/1076-8998.10.4.363

The following items focus on how you have been feeling physically during the past month. Please respond by circling the appropriate number.

1 = Not at all
2 = Rarely
3 = Once in a while
4 = Some of the time
5 = Fairly often
6 = Often
7 = All of the time

Over the past month . . .

1. How often have you had difficulty getting to sleep at night?
   1 2 3 4 5 6 7
2. How often have you woken up during the night?
   1 2 3 4 5 6 7
3. How often have you had nightmares or disturbing dreams?
   1 2 3 4 5 6 7
4. How often has your sleep been peaceful and undisturbed? [reverse score]
   1 2 3 4 5 6 7
5. How often have you experienced headaches?
   1 2 3 4 5 6 7
6. How often did you get a headache when there was a lot of pressure on you to get things done?
   1 2 3 4 5 6 7
7. How often did you get a headache when you were frustrated because things were not going the way they should have or when you were annoyed at someone?
   1 2 3 4 5 6 7
8. How often have you suffered from an upset stomach (indigestion)?
   1 2 3 4 5 6 7
9. How often did you have to watch that you ate carefully to avoid stomach upsets?
   1 2 3 4 5 6 7
10. How often did you feel nauseated (“sick to your stomach”)?
    1 2 3 4 5 6 7
11. How often were you constipated or did you suffer from diarrhea?
    1 2 3 4 5 6 7

**The Multidimensional Scale of Perceived Social Support (MSPSS)**

Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30-41.

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. | There is a special person who is around when I am in need. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | SO |
| 2. | There is a special person with whom I can share my joys and sorrows. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | SO |
| 3. | My family really tries to help me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fam |
| 4. | I get the emotional help and support I need from my family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fam |
| 5. | I have a special person who is a real source of comfort to me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | SO |
| 6. | My friends really try to help me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fri |
| 7. | I can count on my friends when things go wrong. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fri |
| 8. | I can talk about my problems with my family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fam |
| 9. | I have friends with whom I can share my joys and sorrows. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fri |
| 10. | There is a special person in my life who cares about my feelings. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | SO |
| 11. | My family is willing to help me make decisions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fam |
| 12. | I can talk about my problems with my friends. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fri |

The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

**MOS 36-Item Short Form Survey Instrument (SF-36)**
**Scales: *General Health*, *Role Limitations due to Emotional Problems,***
***Social Functioning, Energy/Fatigue***

http://www.rand.org/health/surveys_tools/mos/mos_core_36item.html

1. In general, would you say that your health is: (***Scale: General Health***)
   - Excellent= 100
   - Very good= 75
   - Good= 50
   - Fair= 25
   - Poor= 0

How TRUE or FALSE is each of the following statements for you?

2. I seem to get sick a lot easier than other people ***(Scale: General Health)***
   - Definitely true= 0
   - Mostly true= 25
   - Don't know= 50
   - Mostly false= 75
   - Definitely false= 100

3. I am as healthy as anybody I know ***(Scale: General Health)***
   - Definitely true= 100
   - Mostly true= 75
   - Don't know= 50
   - Mostly false= 25
   - Definitely false= 0

4. I expect my health to get worse ***(Scale: General Health)***
   - Definitely true= 0
   - Mostly true= 25
   - Don't know= 50
   - Mostly false= 75
   - Definitely false= 100

5. My health is excellent ***(Scale: General Health)***
   - Definitely true= 100
   - Mostly true= 75
   - Don't know= 50
   - Mostly false= 25
   - Definitely false= 0

Demographics & Health

What is your gender?
Female= 1
Male= 2

Are you currently?
1=single
2=in a relationship
3=married
4=separated
5=divorced
6=widowed
7=cohabitating

What is your approximate annual gross income? (select one)
1= Under $10,000
2 = $10,000 - $19,999
3 = $20,000 – $29,999
4 = $30,000 to $39,999
5 = $40,000 to $49,999
6 = $50,000 to $74,999
7 = $75,000 - $99,999
8 = $100,000 - $150,000
9 = Over $150,000

Approximate annual gross income for your household (select one)
1= Under $10,000
2 = $10,000 - $19,999
3 = $20,000 – $29,999
4 = $30,000 to $39,999
5 = $40,000 to $49,999
6 = $50,000 to $74,999
7 = $75,000 - $99,999
8 = $100,000 - $150,000
9 = Over $150,000

What race or ethnicity do you consider yourself to be?
1=White/Caucasian
2=Black/African American
3=Hispanic/Latino
4=Asian/Pacific Islander
5=Other/Multiple Ethnicities _____

What is your current age (in years)? ____

Number of children (including adopted, foster, and step-children): _____

Military Questions

Are you a veteran or currently in the military?

1=Yes

***0=No → debrief***

What is your Active Duty status?

1=Regular Active Duty
2=Reserve member serving on Active Duty
3=National Guard member serving on Active Duty
4=Not currently serving on Active Duty

If you are separated from the military, for how long? ____
Total time in the service? ____

Rank (current or when you separated from the military).

E-1
E-2
E-3
E-4
E-5
E-6
E-7
E-8
E-9

W-1
W-2
W-3
W-4
W-5

O-1
O-2
O-3
O-4
O-5
O-6
O-7
O-8
O-9
O-1

Were you deployed as:
1= combat arms
2= combat support
3= combat service support

Were you deployed in (check all that apply):
A combat zone
peace-keeping mission

Number of deployments: ____

Future deployments expected?
1=Yes
0=No
3=Unsure

Did you suffer any permanent physical injuries while deployed in the military?
1=Yes
0=No;

If yes, what type (check all that apply)?
Traumatic Brain Injury
Amputation/loss of limb
Internal injury
Vision problems/loss
Hearing problems/loss
Upper Respiratory problems
Chronic fatigue syndrome
Other_____

Have you ever been diagnosed with Posttraumatic Stress Disorder (PTSD) related to your military service?
1=Yes
0=No

Do you have a VA Disability Rating?
1=Yes
0=No

Service branch
1=Army
2=Army National Guard
3=Navy
4=Marine Corps
5=Air Force
6=Air National Guard

Please indicate your level of agreement with the following statements: Strongly agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1)

Overall, I feel the faculty and staff respect my military service to the nation.
Overall, I feel my fellow students respect my military service to the nation.
Overall, I feel that faculty and staff really understand and identify with me.
Overall, I feel that my fellow students really understand and identify with me.
Overall, I feel that my civilian family and friends really understand and identify with me.
Overall, I feel that my military friends and family really understand and identify with me.

Which of the following, if any, challenges have you faced transitioning from the military to college life? (Check all that apply)

Getting accepted to college
Housing
Transfer of credits
Assimilating to student life
Relationship issues
Financial concerns
Stress
Potential recall to active duty
Feeling safe (standing down from combat training)
Other_____

What, if anything, do you think sets you apart from your college peers? (Check all that apply)

Experience
Age
Maturity
Experience of Traumatic Events
Injury/Disability
Attitude/Bearing
Values
Discipline
Other _____
No Difference

# *Mikaela J. Raley*
## *Curriculum Vita*

### *CAREER OBJECTIVE:*

After obtaining a Ph.D. in Clinical Psychology, I desire to conduct clinical research while providing assessment and treatment of PTSD, Depression, Stress and other Trauma Disorders to encourage and foster positive health outcomes, in conjunction with supervising and training students in a clinical setting.

### *EDUCATION:*

**Master of Science** in Psychological Science — Expected Graduation April 2017
University of North Florida, Jacksonville, Florida

**Bachelor of Arts** in *Psychology*, **Minor** in *Art History* — July 2015
University of North Florida, Jacksonville, Florida

### *HONORS/AWARDS:*

- Francine Butler Biofeedback Certification International Alliance Scholarship — 2017
- Graduate Student Research Travel Grant — 2016
- President's List- *University of North Florida* — 2015
- Dean's List- *University of North Florida* — 2014 - 2015
- Florida Bright Futures — 2013 - 2015
- President's List- *St. John's River State College* — 2012 - 2013

### *RESEARCH EXPERIENCE:*

**Research Lab Coordinator**
Supervisor: *Lori Lange, Ph.D.* — 2015 - Present
*University of North Florida*
**Health Psychophysiological Self-Regulation Biofeedback Lab**

- **Research Lab Coordinator** - Duties include:
  - Conduct literature reviews, develop study protocols, measurement identification and development, author/maintain IRB protocols, supervise biofeedback training, and coordinate participant and site recruitments
  - Supervision of lab personnel, generate manuscripts and analyze data through SPSS (Version 22)
  - Presented conference poster presentations at the 2016 APS International Conference and at UNF SOARS Conference
  - Organize weekly lab meetings, generate lab agendas, complete article reviews on Health Psychology and mentor undergraduate research assistants

- **Biofeedback Lab Study**- Utilizing Biocom software in training veteran students on various biofeedback techniques, including diaphragmatic breathing and respiratory sinus arrhythmia to maintain proper heart rate variability in stressful situations

**Research Lab Coordinator** 2016 - Present
Supervisor: *Katherine Hooper, Ph.D.*
*University of North Florida*
**Behavioral Neuropsychology Lab**

- Duties include:
  - Neuropsychology training on fNIR and MEG technology and data interpretation
  - Collaborate with Dr. Milena Korostenskaja at the Florida Hospital for Children in Orlando, FL., analyzing Magnetoencephalography (MEG) data to create a normative data set
  - Coordinate schedules/visits to the Florida Hospital for Children in Orlando, FL.
  - Assist in equipping lab with technology for MEG data analysis and recruit/train undergraduate lab members

**Mayo Clinic Clinical Research Internship Program** 2016 - Present
Supervisor: *Steven Ames, Ph.D., ABPP*
***Mayo Clinic**, Jacksonville, FL.*

- Internship consists of ten hours per week at **Mayo Clinic, Jacksonville, FL.**
- Duties include:
  - Contribute to the production of an empirical research article on psychological and health behaviors in stem cell transplant patients (in preparation)
  - Review journal articles for publication
  - Interpret/evaluate patient medical records using Power Chart software
  - Utilize Red Cap software for data entry
  - Contact participants, Assemble and distribute research materials
  - Validate research studies' records using Excel

**Research Lab Member** 2016 - Present
Supervisor: *Dawn Witherspoon, Ph.D.*
*University of North Florida*
**Clinical Child Psychology Lab**

- Lab member duties include:
  - Collaborate in writing a National Institutes of Health R15 Grant to fund graduate and undergraduate research
  - Contribute to the production of an empirical research article on suicidality in adolescent African American females (in review)
  - Conduct empirical and theoretical literature reviews/searches
  - Participate in weekly lab meetings

***CLINICAL EXPERIENCE:***

**Clinical Assessment Practicum** 2016 - Present

Supervisor: *Gabriel Ybarra, Ph.D.*
*University of North Florida*
**Duval Regional Juvenile Detention Center, Gateway Community Services Inc., and Private Practice of *Gabriel Ybarra, Ph.D.***
Clinical experience consists of 50+ hours conducting Mental Health Status Examinations

- Conduct intake assessments noting behavioral observations
- Write assessment reports for the Department of Juvenile Justice and the Social Security Disability Benefits Offices
- Administer/interpret Psychological Evaluations (WISC-V, WAIS-IV & WJ-IV)
- Maintain records of clinical reports

Conducted structured clinical interviews identifying:

- Neurodevelopmental Disorders:
  - Intellectual Disabilities, Autism Spectrum Disorder, and AD/HD
- Psychotic Disorders:
  - Schizophrenia, Bipolar and Related Disorders
- Depressive Disorders:
  - Major Depressive Disorder
- Anxiety Disorders:
  - Social Anxiety Disorder, Panic Disorder, Generalized Anxiety Disorder, and Obsessive-Compulsive Disorder
- Trauma and Stressor-Related Disorders:
  - Post-Traumatic Stress Disorder
- Somatic Symptom and Related Disorders
- Insomnia Disorder
- Anti-Social Personality Disorder
- Substance-Related Disorders

**Clinical Observership- Mayo Clinic, Jacksonville, FL.** 2016
Observations in Clinical Psychology, Oncology, Hematology and Bariatric
Departments at **Mayo Clinic, Jacksonville, FL.**

- Observe/transcribe inpatient and outpatient clinical visits noting treatment recommendations
- Attend seminars by Clinical Psychologists in the Oncology and Bariatric departments

**Internship Experience** 2014
*Department of Psychology, University of North Florida*
*Rebecca Marcon, Ph.D.*
**UNF's Student Liaison**- **Clay County's Head Start Program** - Responsibilities included:

- Supervisory Position
  - Conducted weekly feedback/guidance sessions with peers
  - Reviewed peer activity summaries and provided supervisor synoptic reports
  - Developed lesson plans and presented on self-esteem awareness

- Direct Child Contact
  - Implemented treatment plans
  - Composed behavior observations summaries

- Provided family support on affirmative parenting styles

***KEY COMPETENCIES/SKILLS:***

- Experienced in Administering/Interpreting Psychological Assessments (Wechsler Intellectual Scale for Children (WISC-V), Wechsler Adult Intellectual Scale (WAIS-IV), & Woodcock-Johnson IV (WJ-IV)
- Trained in analyzing and interpreting Magnetoencephalography (MEG) data
- Accomplished in using Biocom Heart Tracker Software for HRV training
- Proficient in creating models to enhance empirical literature
  - Created a Negative Feedback Loop Model examining the relationship between social connectedness and health outcomes
- Well versed in APA style protocols
- Skillful user of **Statistical Package for the Social Sciences**-**Version 22** [ANOVA (one-way & factorial), Regression (simple linear, multiple & factorial), etc.]

***PROFESSIONAL EXPERIENCE:***

**Article Reviews**

- Ad Hoc Review for the Journal of Annals of Behavioral Medicine 2016
- Ad Hoc Review for the Journal of Health Psychology 2015
- Ad Hoc Review for the Journal of Health Psychology 2015
- Ad Hoc Review for the Journal of Addictive Behaviors 2015

**Professional Development/Teaching Experience**

- **Certification**: Biofeedback Certification Expected 2017
  - Biofeedback Certification International Alliance (BCIA)

- **Guest Lecturer:** Dr. Lori Lange's Research Methods Course 2016
  - Lecture on experiments with multiple independent variables

- **Workshop**: Institutional Review Board (IRB) Demonstration 2015

- **UNF Psychology Seminar Series:**
  - Elena Salillas, Ph. D., entitled "How the language for early learning shapes the bilingual numerical system with EEG and MEG data" 2016

- **Candidate for Assistant Professor of Clinical Psychology Series:**
  - Christopher Drescher, Ph.D., titled "Positive Youth Development: Strengthening Youth Globally and Locally" 2016
  - Dawn Witherspoon, Ph.D., titled "Does depression, self-esteem, body-esteem, and eating attitudes vary by 2016

BMI among African American adolescents?"

## *PROFESSIONAL AND COMMUNITY MEMBERSHIPS/ASSOCIATIONS:*

- American Psychological Association, Student Affiliate Member 2016 - Present
- American Psychological Association, Trauma, Division 56 2016 - Present
- Society for Military Psychology, Division 19, Student Affiliate 2016 - Present
- Southeastern Psychological Association 2016 - Present
- American Psychological Science, Student Affiliate Member 2015 - Present
- Phi Kappa Phi Honor Society 2015 - Present
- Psi Chi Psychology Honor Society 2014 - Present
- Phi Theta Kappa Honor Society 2013 - 2015
- Graduate Psychology Organization (GPO) 2015 - Present
- Graduate Student Organization (GSO) 2015 - Present
- UNF Member of Community Connections in Psychology 2015 – Present
- UNF's Student Liaison- Clay County's Head Start Program 2014

## *PRESENTATIONS/ABSTRACTS:*

**Raley, M. J.**, Bueno, J. S., Lange, L. J. & Copeland, J. (2016, May). Social Connectedness Trumps Social Support in Predicting Depression. Poster presented at the 28th Association for Psychological Science (APS) Annual Convention, Chicago, IL.

**Raley, M. J.**, Bueno, J. S., Lange, L. J. & Copeland, J. (2016, April). Social Connectedness Trumps Social Support in Predicting Depression. Poster presented at the 15th Annual Showcase of Osprey Advancements in Research & Scholarship (SOARS), Jacksonville, FL.

## *COMMUNITY INVOLVEMENT/VOLUNTEER SERVICE:*

- Principal Flautist for Doctors Inlet Elementary 2015 - 2016
  Chorus Concerts/local competition events
- Organized Care Packages for deployed Military Troops 2014 - 2015
  - Via Middleburg Elementary School
- Hands of Hope Clothing Distribution Center- Middleburg, FL. 2011 - 2015
- Project Coordinator for the Middleburg Head Starts Fall Festival 2014
- Executed the UNF Psychology Departments Thanksgiving Food Drive 2014
  Involving the Head Start programs in Duval, St. Johns and Clay Counties
- Attended Community Partnership Meeting 2014
  - Special presentation by Hubbard House
- Planned and Hosted a *You Make Me Smile Campaign* 2013
  - Facilitated and enhanced positive self-image among High School females

***PUBLICATIONS:***

***Peer-Reviewed Journals***

Witherspoon, D., Linkroum, S., Shafer-Berger, S., Black, M., & **Raley, M. J.** (in review). Suicidal ideation in a middle school sample of African American girls: Ethical considerations in research. Submitted to the Journal of Pediatric Psychology.

***Manuscripts in Preparation***

**Raley, M. J.**, Lange, L., Sholetta Whittaker, S. (2016). The effects of social connectedness on perceived stress, somatic symptoms, and depression. Manuscript in preparation.

**Raley, M. J.**, Lange, L. (2016). Social connectedness vs. social support: Which is a better predictor of health outcomes in the military student population? Manuscript in preparation.

Ames S., Ames G., Lange L., **Raley M. J.**, Heckman M., Niazi S., Foran J., Roy V. (2016). The role of psychological and health behavior factors in quality of life, morbidity, and mortality in hematopoietic stem cell transplant patients. Manuscript in preparation.

***REFERENCES:***

Lori Lange, Ph.D. (Thesis Advisor)

Steven Ames, Ph.D., ABPP (Supervisor)

Gabriel Ybarra, Ph.D. (Supervisor)