

THE RELATIONSHIP BETWEEN STRESS AND SOCIAL SUPPORT IN THE
VETERAN COMMUNITY

By

Ryan H. Cornelius

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Thesis Committee:

Mary Ellen Fromuth, Ph.D., Committee Chair

Dana K. Fuller, Ph.D., Committee Member

Ciera Schoonover, Ph.D., Critical Reader

ABSTRACT

The study was designed to investigate the relationship between perceived stress and perceived social support (military and civilian sources). Further, this study explored whether meaning in life moderated the relationship between perceived stress and perceived social support. Participants for this online study included 19 veteran university students who were recruited from a veteran student support center. Participants completed a survey consisting of demographic information as well as the Perceived Stress Scale, Multidimensional Scale of Perceived Social Support, Perceived Military-Based Social Support, and the Meaning in Life Questionnaire. Contrary to what was predicted, no significant correlations emerged between perceived stress and either type of perceived social support. The low response rate (less than 3%) likely contributed to these findings. Further, exploration of this topic may require increased incentives for participation and utilizing multiple universities. Additionally, to have a more representative veteran sample, recruiting participants from outside the university setting would be ideal.

TABLE OF CONTENTS

LIST OF TABLES.....	v
LIST OF APPENDICES.....	vi
CHAPTER I: INTRODUCTION.....	1
Perceived Stress.....	2
Perceived Social Support.....	6
Meaning in Life.....	15
Summary.....	18
Purpose of the Study.....	21
Hypotheses.....	21
CHAPTER II: METHOD.....	23
Participants.....	23
Measures.....	25
Demographics.....	25
Perceived Stress Scale.....	25
Multidimensional Scale of Perceived Social Support.....	26
Perceived Military-Based Social Support.....	27
Meaning in Life Questionnaire.....	28
Procedure.....	29
CHAPTER III: RESULTS.....	30
Descriptive Statistics.....	30

Hypotheses Testing.....	30
CHAPTER IV: DISCUSSION.....	35
REFERENCES	39
APPENDICES	46

LIST OF TABLES

TABLE 1: Demographic Frequencies of Final Sample.....	24
TABLE 2: Demographic Frequencies of Military Categories of Final Sample.....	31
TABLE 3: Sample Means and Standard Deviations for Measures.....	32
TABLE 4: Correlations Among Study Variables.....	33

LIST OF APPENDICES

APPENDIX A: IRB Approval Page.....	47
APPENDIX B: Veteran Center Director Letter.....	50
APPENDIX C: IRB Recruitment Email.....	51
APPENDIX D: Survey Demographic Items.....	53
APPENDIX E: IRB Informed Consent.....	56
APPENDIX F: Debriefing Form.....	59

CHAPTER I: INTRODUCTION

The condition of military personnel's mental health has been a topic of conversation nationally for several years. With the "22 a Day" campaign (Drake, 2012) raising awareness of veteran suicide, the concern for those who don the uniform has reached the forefront of the dialogue. Veterans contend with many unique problems related to adjustment and stress.

In the 2010 Census, veterans made up less than 10% of the U.S. population at 20.5 million (U.S. Census Bureau, 2020) and may experience unique hardships at disproportional rates. Over one and a half million veterans live in poverty with veteran homelessness tallying at over 40,000 (U.S. Department of Housing and Urban Development, n.d.). The military population is feeling the burden of modern warfare, and veterans are facing increasing rates of mental health issues. Among veterans, 11 to 20% are diagnosed with posttraumatic stress disorder (PTSD; U.S. Department of Veterans' Affairs, n.d.), and 1 in 10 veterans returning from Iraq/Afghanistan receiving care from Veterans' Affairs (VA) experience problems with drugs and alcohol (U.S. Department of Veterans' Affairs, n.d.). These figures may be largely under-representative due to the underutilization of VA services and may be much higher than what is reflected (U.S. National Institutes of Health, n.d.). Many veterans may not be aware of what services are offered at VA facilities or what services they qualify to receive related to their military service. A potential explanation for underutilization may be proximity to care, with many veterans living greater than 45 minutes from the nearest VA facility (U.S. National Institutes of Health, n.d.).

A significant component of military service is navigating life after the uniform and reintegrating “home.” Issues surrounding alienation and acculturation could play a pivotal role in the success of the servicemember during the transition process. This lack of social connectedness, as an element in the adjustment to life outside of the uniform, may have lasting and severe effects on the lives of veterans. Feelings related to a loss of social cohesion and sense of lacking a purpose may be found in a lack of social connectedness. This loss of social support structures may undermine resources necessary to adapt to the demands of life. Feelings associated with having a lack of social support may leave veterans viewing the world as increasingly threatening. The loss of social support, especially from the uniform, may cause veterans to perceive their lives after the uniform as more stressful and lead to problematic adjustment issues.

Perceived Stress

Psychological stress has been conceptualized as “a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1984, p. 19). The correlates of psychological stress have been well established in the literature with numerous deleterious outcomes such as cardiovascular disease (Gianaros & Jennings, 2018), hypertension, and high cholesterol (Gawlik et al., 2019) being consistently supported. The environmental demands placed on the individual are referred to within the literature as stressors. A stressor can be defined as a “stimulus that challenges the body’s homeostasis and triggers arousal. Stress responses are not only physiological but also behavioral and include both arousal and an attempt to reduce stress” (Kolb & Whishaw, 2015, p. 168).

Stressors, however, do not have an even effect across all people. Stressors invoke various levels of arousal, and individuals' evaluations of the stressors are multidimensional. One's assessment of a stressor may provide the most meaning to how stress manifests. As cited by Robertson (2018, p. 176), the ancient Stoic philosopher Epictetus stated, "Men are disturbed not by things but by the view they take of them." Within Lazarus and Folkman's (1984) definition of psychological stress, one's evaluation, or appraisal, of the situation may be the critical component. One's tendency to judge a stressor as more threatening is likely to increase the amount of arousal felt; as a result, one's perception of the stressor is likely to be more meaningful than the stressor itself. The premise of stressor perception can be conceptualized as perceived stress.

Perceived stress may be the element that is most predictive of how much psychological stress is produced by a stressor and has been conceptualized as "one's ongoing evaluations of life circumstance and one's ability to adapt" (Roos et al., 2020, p. 661). Perceived stress has been found to be positively correlated with depression severity and PTSD severity in specific populations (Catabay et al., 2019). Substance-related issues, such as alcohol abuse, have been predicted by perceived stress (Smith et al., 2019). Further, perceived stress has been linked to physiological effects such as the shortening of telomere length (Bersani et al., 2016). With the effects of psychological stress and the perception of stress potentially leading to negative outcomes, the factors that lead to chronic stress and the sustainment of the stress response become more meaningful. One theory that addresses the issue of stressors and the trajectory of the stress response is the stress sensitization theory by Post (1992).

Post's (1992) stress sensitization theory posits that stressor severity over time may become less of a factor in producing negative outcomes. The initial stressor causes a vulnerability to subsequent stressors and potentially causes the stress response to be triggered by less severe stressors from the environment. Post's (1992) seminal work noted that major life events may precipitate an occurrence of clinical depression, but Post's findings suggest the threshold of stressor needed to trigger a depressive episode becomes lower across time. The initial stressor caused a vulnerability that increased the likelihood of further bouts of depression. Thus, the initial stressor increased the likelihood of a subsequent depressive episode being triggered by stressors of lesser severity. Within this premise, people can become sensitized to stress through exposure, and each subsequent exposure may add to the cumulative effect. The threshold to cause a stress response would be lowered with each exposure leading to increasingly less severe stressors invoking a response (Monroe & Harkness, 2005). With stress sensitization in mind, one can hypothesize that the military lifestyle may invoke unique stressors that cause sensitization to occur.

The military lifestyle requires unique demands upon the servicemember that could invoke a stress response. Servicemembers have challenges related to financial hardships, maintaining relationships, and parenting; further, these challenges often occur while preparing for upcoming or returning from deployments. Interian et al. (2014) studied the effects of homefront stressors (e.g., marital, family, and occupational demands) before and after deployment schedules and found that chronic stress from homefront stressors had a cumulative effect and led to an increase likelihood in experiencing posttraumatic symptoms associated with deployment. These findings may support Post's (1992) theory

that stressor severity is less of a factor across subsequent exposures. The servicemembers may have met the threshold necessary to cause a vulnerability to stressors even before the deployments. One could posit that the deployments and homefront stressors have a reinforcing effect upon each other. The homefront stressor acts as a catalyst to induce the stress response, and this response is maintained during the deployment. Upon returning from the deployment, the homefront stressors are still present, leaving the servicemember with no respite.

The military lifestyle stress is not limited to one's time in the uniform and may be associated with additional stress upon separation from the military. The transition from servicemember to civilian is a challenging time, with 44% of post 9/11 veterans reporting difficulties in transitioning (Morin, 2011). Marriage, number of deployments, and level of education are all factors that may predict the difficulty of transition from service. Morin (2011) unexpectedly found that being married led to an increase in difficulty during transition, which further illuminates that the military lifestyle is unique.

Mobbs and Bonanno (2018), in a review, described elements believed to be related to transition difficulties. Difficulties with transition varied across many domains and were related to the loss of military self (e.g., grief associated with loss of an occupation perceived to be meaningful and sense of purpose), service-connected nostalgia (e.g., a reaction thought to be an attempt to control civilian transition challenges), stereotype threat (e.g., confirming negative stereotypes about veterans), moral injury and the effect of civilian-military divide (e.g., grief and shame experienced as a result of a traumatic event) and are all thought to be combined with a lack of

understanding and shared experience with the civilian society to influence transition difficulties.

Smith-MacDonald et al. (2019), in a qualitative study, interviewed 18 veterans about issues surrounding transition into the civilian world. The Smith-MacDonald et al. (2019) findings were grouped in four major categories: (a) soldierizing, the indoctrination into the cultural norms of the military such as the group comes before the individual, (b) fracturizing, the realization that members of the uniform do not always uphold the standards of the culture or military betrayal, (c) limboizing, the external creation of the veteran identity that occurs to the servicemember with social isolation and family conflict being common, and (d) reconciling, or the process of reclaiming an identity through “finding a herd” and forming new avenues to express positive elements of the military culture and rediscover meaning in life. These four concepts surround how social elements affect the transition from military service.

Smith-MacDonald et al. (2019) described “finding a herd” as the cultivation of veteran-to-veteran support by establishing a new community. Additionally, the veterans described this kinship as helpful in navigating transition to post service by gaining a sense of purpose. Mobbs and Bonanno (2018), Smith-MacDonald et al. (2019), and Morin’s (2011) findings illustrate that there are complicated interactions between veteran social support and perceived stress.

Perceived Social Support

Social support has a multitude of factors (e.g., the source of the support, the quality, and one’s evaluation of the support) that must be considered when it is being evaluated. As in perceived stress, one’s evaluation of social support may be its most

meaningful factor. One's subjective appraisal of how much support they feel is available may be more important than the actual support offered. The individual's evaluation of their own social resources may have substantial effects in how the individual navigates the demands of life.

"Perceived support refers to one's potential access to social support" (Uchino, 2009, p. 239). The "potential access to social support" element of the Uchino (2009) definition is the part that may have the greatest meaning. "Potential access" is most likely a subjective evaluation when one is assessing the amount of support available. The appraisal, or subjective evaluation, of the access to social support can have meaningful effects in how one evaluates their environment.

In a study of 167 British military servicemembers stationed at the Falkland Islands, Limbert (2004) evaluated coping strategies, perceived social support, psychological well-being, and job satisfaction of the participants. Limbert (2004) hypothesized that perception of greater social support can lead to the utilization of coping strategies deemed more effective in dealing with the unique stressors of the military lifestyle. Indeed, Limbert (2004) found that the greatest amount of variance within psychological well-being was related to perceived social support; perceived social support and psychological well-being were positively correlated. These findings could suggest that perceived social support has a protective effect upon military servicemembers, particularly in stressful situations.

Cohen and Wills (1985) produced a seminal work on the buffering effects that social support has upon stress. In their work, they theorized social support may offset some of the harmful effects of stress. Cohen and Wills (1985) also noted that the types of

support that buffered stress were esteem (information that one is esteemed and accepted) and informational (help with defining, understanding, and coping with problematic events) support.

Birmingham and Holt-Lunstad (2018) addressed issues of social support potentially having the opposite effect to Cohen and Wills' (1985) buffering of stress. Birmingham and Holt-Lunstad (2018) suggested that social support can become a stressor within itself and termed this phenomenon as social aggravation. Social aggravation potentially could not only increase the stress response but may be an element that maintains it. With social aggravation in mind, Morin's (2011) findings about marriage and the difficulties with transition could be relevant to how social support and stress interact in the military population. With Birmingham and Holt-Lunstad's (2018) contrasting view to Cohen and Wills' buffering hypothesis (1985), social aggravation could explain the veteran's feelings of increased hardship relating to marriage and family demands. The Interian et al. (2014) findings on homefront stressors also could be related to social aggravation, raising concerns about the source and quality of social support rendered being of increasing relevance within the military population.

The type and the source of support rendered to military members may have specific impacts on stress, but this has not been thoroughly investigated. Brancu et al. (2014) found that, among veteran populations, the buffering effects of social support to stress were minimal; veteran specific support, however, may offer more of a buffering impact. Thoits (1986) hypothesized that effective support is most likely to come from socially similar others who are facing/faced the same stressors. The Thoits (1986) socially similar support premise combined with Cohen and Wills' (1985) two sources of

effective support (esteem and informational) suggest that one may consider that the source of support (e.g., a person who is socially similar providing acceptance and information) is most likely vital to the efficacy of the support rendered.

The loss of military self, noted by Mobbs and Bonanno (2018), combined with needing to “find a herd” (Smith-MacDonald et al., 2019) may be the link to Cohen and Wills’ (1985) type of effective support necessary to buffer stress. Further, Thoits’ (1986) theory, about the source of support being similar to the recipient, may offer a link to the idea that military specific social support must be reestablished as veteran social support, especially when navigating the stress of transition. “Finding a herd” offers a bridge to Cohen and Wills’ (1985) effective forms of social support because the socially similar support acts as a model to successfully navigate stressors while providing the esteem necessary to buffer the effects of stress.

To further explain how effective support may be multidimensional and interactive, Ahern et al. (2015), in a qualitative study, interviewed 24 veterans about their transitions from military to civilian life. During their interviews, three concepts emerged: (a) military as a family, (b) normal is alien, and (c) searching for the new normal.

Ahern et al. (2015) reported that nearly half of the 24 veterans described the military as a family with two main components, a caretaker that provided comfort and a structure that provided simplicity. The loss of “Military Family” transitioning out of uniform may be perceived as a loss to family support that could lead to an increase in perceived stress. The loss of the “Military Family” could explain why “finding a herd” is vital in Smith-MacDonald et al.’s (2019) findings.

Further, Overdale and Gardner (2012) studied the effects of social support on recruits in training. They linked social support from internal military sources (e.g., instructor support) to an increase in military belongingness and positive self-rated performance. Paradoxically, in the same study, increases in external sources of support (e.g., friends and family support) were associated with increases in coping difficulties. Similarly, Limbert (2004) found that perceived social support predicted increases in well-being and job satisfaction in military members on unaccompanied tours of duty (placements where families are not allowed to join the servicemembers), but this research did not distinguish the source of support (e.g., civilian support or military support).

Limbert's (2004) findings could support the idea that military members form new networks of social support to replace "back home" social support sources. The forming of new social support networks would be consistent with previous findings (Ahern et al., 2015; Overdale & Gardner, 2012) that military specific support becomes increasingly vital. Military specific support in servicemembers may have particularly strong effects upon transition. The loss of military self (Mobbs & Bonanno, 2018) and esteem support (Cohen & Wills, 1985) found from fellow servicemembers may introduce additional burdens to transitioning servicemembers. The loss of identity and understanding of those in the uniform may add to the stressors of reacclimating to life after service. The "normal" upon separating is no longer familiar.

Normal is alien, Ahern et al.'s (2015) second major theme in the study, is comprised of four subcategories: (a) disconnection, (b) unsupportive institutions, (c) lack of civilian structure, and (d) loss of purpose. Most veterans (19 of 24) reported feeling disconnected from previous sources of social support (e.g., family and friends). Veterans

reported that previous sources of civilian-based support no longer understood who they were and could not relate to their experiences. The source and support rendered were no longer adequate to have a buffering effect (Cohen & Wills, 1985; Thoits, 1986).

Further, veterans reported a lack of support from the military, VA, and other institutions that led to feelings of alienation (Ahern et al., 2015). The loss of military specific sources of social support may lead to increased feelings of alienation or abandonment. The cultural differences found between life in the uniform and the civilian world may lead to increases in feelings of loss in support. The lack of civilian structure compared to the military lifestyle was reported to lead to abrasive interactions with friends, family, and coworkers/fellow students who did not adhere to structural demands such as being on time. Additionally, complaints that civilian life lacked purpose combined with the loss of a unified communal goals may have meaningful effects on stress perception.

Findings about military sense of belonging and well-being could explain the veterans' loss of purpose and meaning during transition. "Finding a herd" could offer a solution to regaining a sense of belonging and well-being within the civilian world as well as reestablishing social support during the stressful adjustment (Limbert, 2004; Overdale & Gardner, 2012; Smith-MacDonald et al., 2019).

Establishing a new normal involves forming new social supports with a shared military culture (military buddies or veteran peers) who have transitioned before them (Smith-MacDonald et al., 2019). The "military buddies" located in "finding a herd" could act as a source of informational support by providing insight in successful transition. Smith-MacDonald et al.'s (2019) findings concerning navigating transition

into the veteran identity is consistent with the Ahern et al. (2015) and the Thoits (1986) concept of effective support as a model of behavior. Ahern et al. (2015) spoke of veterans as ambassadors to civilians for the military culture. This ambassador role could help dispel stereotypes consistent with Mobbs and Bonanno's (2018) findings concerning stereotype threat. Within "finding a herd," one could postulate that a similar effect could be had in being an advocate for newly transitioning servicemembers. Acting as Thoits' (1986) similar person navigating the stressors of transition could increase feelings of belonging and purpose for veterans.

The complexities surrounding the transition to civilian life are further compounded when one accounts for how one separates from service. Hoffmire et al. (2019) surveyed 809 veterans of the post-9/11 era about engagement in suicidal ideation. Hoffmire et al. (2019) focused on the varying conditions for discharge (e.g., honorable, administrative/other than honorable/general, and dishonorable) and the likelihood to engage in suicidal ideation. The veterans who were discharged from service under honorable conditions were less likely to experience mental health problems than those who received other conditions of discharge. Veterans discharged under administrative action, where veterans did not have a choice about ending their service, were twice as likely to meet probable depression criteria than their honorably discharged counterparts. It is worth noting that 31.1% of the honorable discharge veterans still fell within probable depression criteria, and the Hoffmire et al. (2019) findings could potentially lend credence to the idea that this transition is especially stressful when one does not have control over the timing of transition. An important point must be made that due to the complex and bidirectional nature of such correlations, one cannot definitively predict as

to whether the conditions that lead to discharge were present before their time in uniform or were a result of experiences that occurred during their services or were the result of their discharge itself.

Ahern et al. (2015) interviewees' feelings of being disconnected and losing a sense of purpose potentially could be related to the loss of esteem support, especially in a stressful period such as transition from service. Ahern et al. (2015) described veterans' feelings of alienation from the larger societal structures, and this alienation may support how vital military-specific support is to transition. The veterans may feel disconnected from sources of support they had before the uniform and may feel rejected from the greater society, largely due to shifts in their worldview. With these elements in mind, the loss of military specific support may have marked effects on the veteran. Their lives may have lost purpose without the social cohesion and acceptance that the military culture once provided them. The loss of purpose and belonging once provided in the uniform could be related to veterans' feelings of alienation from society, especially while under increased stress during transition.

The effects of social support are supported by research and may have profound impacts on psychopathology and stress. Wessermann et al. (2018) surveyed 129 servicemembers about deployment stress, PTSD symptoms, anxiety, perceived social support, and perceived ostracism. Wessermann et al. (2018) found that deployment stress was positively correlated with posttraumatic stress symptoms, which supports the Interian et al. (2014) findings about homefront stressors continuing to impact the lives of servicemembers both before and after deployments. Additionally, Wessermann et al. (2018) found that a lack of perceived social support increased the likelihood of

posttraumatic stress symptoms, anxiety, and psychological distress. Further, Wesselmann et al. (2018) found perceived social support from military sources made up a significant amount of the variance, second only to ostracism.

One could posit, based on the work discussed thus far, that the decrease in social support led participants to evaluate stressors in fundamentally different ways. The stressors were possibly perceived as more threatening with the loss of social support. As one evaluates a stressor in this manner, the negative appraisal of a stressor could overwhelm one's belief in their ability to meet the demands of the environment. A cycle facilitated by the loss of social support, followed by a change in stress appraisal, may be the mechanism that increases an individual's vulnerability as found within Post's (1992) stress sensitization theory.

The loss of social support and the very feeling of disconnectedness and alienation that was described in the Ahern et al. (2015) study could be directly related. Further, the Hoffmire et al. (2019) findings of probable depression among discharged veterans lends credence to the idea that how one loses sources of military social support may be further linked to appraisals of stressors deemed more threatening. If one experiences a loss of social support due to forced separation from service, as discussed within Hoffmire et al. (2019), there may be further reason to believe that social support acts as a protective factor in transition. If one feels as if they were "kicked out," they may have a harder time re-establishing social support in a veteran identity as discussed within Smith-MacDonald et al. (2019). Additionally, veterans forced out of service may have difficulty establishing a new sense of purpose and meaning due to the conditions surrounding their transition and discharge.

The struggles related to social support loss and how purpose and meaning can be re-established through the creation of new social support structures imply how vital establishing new meaning in life is through social interactions. The meaning of life found within social support may do much to reduce stress (Limbert, 2004; Smith-MacDonald et al., 2019), and one may postulate that the subjective evaluations about the meaning of life could be related to how one perceives social support and stress. To further explain, subjective positive evaluations about one's life having meaning could directly relate to how much social support one has available and how one evaluates their ability to meet the demands of stressors. Similarly, negative evaluations about whether life has a meaning and how much support one has available may undermine an individual's confidence in meeting the demands of a stressor. These relationships are likely complex and bidirectional but lead one to ponder the astounding effects that one's subjective impression on how much meaning their life has on their ability to meet the demands of the environment.

Meaning in Life

“Purpose refers to having goals and direction in life” (King et al., 2016, p. 212). Viktor Frankl's (2006) seminal work in his book *Man's Search for Meaning* theorized that meaning in life can be found through personal accomplishments and could be conceptually related to the idea of purpose found through a person's reflections of accomplishments and goals. Specifically, Frankl described a tension found in what one has achieved and what one will achieve and related this tension as vital to mental well-being. He further characterized the tension as necessary to the struggle with a worthwhile goal. Additionally, he characterized the idea of a worthwhile goal, and the

necessary struggling that accompanied it, as the essence of existence. Within a worthwhile goal, one can decide to be responsible to one's own conscience or to society. Veterans may characterize their lives after service in terms of being caught between one's own conscience and the society. They may have complex feelings about their accomplishments in the uniform and feel a strong sense of duty to the society that they once protected. Veterans may feel as if this tension described is a dichotomy in which they are placed between a desire for new worthwhile goals and feeling a responsibility for the nation they once swore to defend.

One may feel the urge to seek out new ways to find meaning if one notices an absence. To address the feelings of absence in meaning, Steger et al. (2006) constructed a measure to assess whether an individual appraised their life as having meaning, presence, or whether an individual was seeking ways to find meaning, search. Veterans, due to the complex feelings surrounding their military service and the loss of social support, may have a complicated view of meaning in life outside of the uniform where they feel the strain of the loss of purpose, but feel gratification in their accomplishments in the uniform.

Frankl theorized that meaning can be found through three different ways: "creating a work or deed, by experiencing something or encountering someone, and by the attitude we take toward unavoidable suffering" (Frankl, 2006, p. 111). Frankl's premise that meaning can be found through others is of particular interest when considering the military population. Smith-MacDonald et al.'s (2019) "finding a herd" could be related to Frankl's idea of meaning found through others. Further, Ahern et al.'s

(2015) veteran interviewees' loss of purpose and feeling disconnected from others could be directly threatening to their sense of meaning in life.

Further, as cited by Williams (2009), Baumeister (1991) theorized that meaning in life revolves around meeting four psychological needs, and purpose is one of those needs. As discussed within the Williams' (2009) need-threat temporal model, ostracization exposure is threatening to one's belonging, self-esteem, control, and meaningful existence. In this model ostracization could be conceptualized as a loss of social support. Ahern et al.'s (2015) participants described their transition out of the uniform as a loss of purpose and could be describing feelings associated with a loss of social support itself. Further, feelings of disconnection described in the Ahern et al. (2015) study may be related to a loss of belongingness expanding the possibility that loss of social support could be likely implicated. These two elements, loss of purpose and belongingness, could signal that veterans are feeling a loss of social support during their transition from the uniform. Mobbs and Bonanno (2018) noted a similar loss of purpose and the loss of a meaningful occupation, which could further indicate that feelings surrounding a loss of social support could be at play.

Krause (2007), in a longitudinal study, noted that emotional support (e.g., being comforted, being listened to, having an interest taken) leads to an increase in anticipated support (e.g., if you needed to talk, know where to go), which had an indirect effect on meaning of life. This correlation seems to suggest that if one experiences emotional support then they may perceive they have the social resources to meet future stressors. Anticipated support could be conceptually similar to perceived support, and in veteran populations the loss of anticipated support could lead to the loss of meaning. The Krause

(2007) findings could further explain why veterans who lose their military specific social support report feeling disconnected and alienated while feeling a loss of purpose. As ostracization, or the loss of social support, is threatening to meaningful existence (Williams, 2009), the concepts of social support and meaning of life may interact in profound ways when evaluating stressful life events.

Summary

Veterans in the United States navigate many stressors during their time in the uniform, and the transition from the uniform to civilian life is another stressor that may be appraised as one of the most demanding. The evaluation of a stressor may be the most relevant component of the stress response (Lazarus & Folkman, 1984), and as one evaluates a stressor as demanding, the threshold for the stress response may diminish with repeated stressor exposures (Post, 1992). Conceptually, the theory proposed by Post (1992), known as stress sensitization, may reflect the relationship between stress and adjustment issues after the uniform for veterans. One develops a vulnerability to stress, and repeated exposures to stressors, even of lesser and lesser severity, could lead to negative effects of chronic stress noted by Catabay et al. (2019). Stressors and the stress response may have a cumulative and compounding effect on an individual's appraisal of stress and their view of their ability to meet the demands of the environment.

The military lifestyle is full of stressors (e.g., deployments, separation from family, hazardous duty) capable of validating Post's (1992) stress sensitization theory. Interian et al.'s (2014) findings about the substantial effects of homefront stressors could further support Post's (1992) theory in military populations. Stressor severity may become less relevant after the initial stressor and a stressor may not have to be life

threatening to maintain a servicemember's stress response. A severe stressor, such as those found during deployments, may initiate the stress response and the homefront stressors, although lesser in severity, offer no relief when rotating back from deployments. Interian et al.'s (2014) homefront stressors (e.g., dealing with family obligations) could validate Birmingham and Holt-Lunstad's (2018) theory of social aggravation, and these social interactions become stressors within themselves.

The concept of social aggravation as a stressor would potentially explain why servicemembers have a vulnerability to stress between deployments. Brancu et al.'s (2014) findings that social support had little buffering effects upon stress for military populations could be a reflection that homefront stressors are removing any respite for the servicemember. Further, Brancu et al. (2014) does not consider Limbert's (2004) findings that military members form new networks of social support to replace "back home" social support sources. The forming of new social support networks would be consistent with previous findings (Ahern et al., 2015; Overdale & Gardner, 2012) that military specific support becomes increasingly vital.

As servicemembers move between military and civilian demands, they may evaluate these demands as equally threatening. Further, as servicemembers transition out of the uniform, and the changes that accompany it, transition becomes the next stressor capable of invoking the stress response. This must be understood in the context of how social support changes while in the military culture and how new effective forms of social support are developed in the uniform. Smith-MacDonald et al. (2019) described how the group becomes paramount and the needs of the individual become less important. Smith-MacDonald et al. (2019) described "finding a herd" as a solution to

establishing a new group membership. The cultivation of veteran-to-veteran support, through establishing a new community, may offer social support for challenges related to transition.

Social support, as theorized by Cohen and Wills (1985), may buffer the effects of stress when the correct types of support are rendered (e.g., esteem and informational). As Thoits (1986) theorized, socially similar support is the most effective support delivered. Thoits (1986) further stated that, when meeting the demands of a stressor, having someone who has navigated the stressor successfully as a form of social support acts as a template for the individual actively engaged in the stressor.

In the military culture, individuals increasingly learn to rely upon their fellow servicemembers, forming a surrogate network of social support. As the stressors of military life occur, servicemembers look to one another for help in navigating the demands. Fellow members in uniform may seek support from others who have faced similar stressors that arise from military and civilian sources (e.g., expectations for deployment, acclimating to a new command, or divorcing a spouse). The cultivation of socially similar support provides useful strategies and esteem to meet stressful environmental demands (Cohen & Wills, 1985; Thoits, 1986).

As military members transition out of the uniform, the loss of military specific social support networks may cause evaluations of stressors to change. As stressors are appraised as more threatening, the loss of military specific social support may become more meaningful. As Ahern et al. (2015) noted, participants' feelings of disconnection from civilian social support channels could potentially magnify the loss of military specific social support.

As explained within the Williams' (2009) need-threat temporal model, ostracization, or a loss of social support, may be evaluated as threatening to one's sense of belonging, self-esteem, control, and meaningful existence. Krause (2007) noted that social support is correlated with a sense of meaning and based on these findings about anticipated social support indirectly affecting sense of meaning, one could posit that how one feels about the social resource availability may influence how much meaning one feels life possesses. As veterans experience a loss of social support upon separation, they may feel disconnected from others in life after the uniform. As these feelings rise, veterans consequently may experience a loss in a sense of meaning. During such a loss of meaning, veterans may evaluate experiences as more threatening leading to a change in how they view stressors. With a sense of meaning and social support appearing to have connections to how veterans evaluate stressful stimuli, understanding the correlation between social support and meaning in life could have profound applications in combating harmful prolonged stress exposures in military populations.

Purpose of the Study

The purpose of this study was to explore how perceived social support (civilian and military-based) was related to veterans' perceived stress. Additionally, this study explored whether meaning of life (presence or searching) interacted with perceived social support in predicting perceived stress.

Hypotheses

H1: It was predicted that those who score higher in civilian-specific perceived social support via the Multidimensional Scale of Perceived Social Support (MSPSS, Zimet et al., 1988) total score would score significantly lower on perceived stress on the Perceived

Stress Scale (PSS, Cohen et al., 1983). To measure military-specific social support the Perceived Military-Based Social Support Scale (PMBSS, Smith et al., 2013; Wesselmann et al., 2018) was utilized, and it was predicted that higher scores on the PMBSS would predict lower perceived stress scores on the PSS. Lastly, it was predicted that military-specific support would be a stronger predictor of perceived stress than civilian-specific support.

H2: Perceived social support scores, civilian-specific and military-specific, were predicted to correlate positively with the presence subscale on the Meaning in Life Questionnaire (MLQ, Steger et al., 2006). Further, compared to civilian-specific social support, the military-specific social support was predicted to be more strongly associated with the presence subscale. Additionally, both perceived social support measures (i.e., civilian-specific and military-specific) were predicted to be negatively correlated with the search subscale on the MLQ. Also, it was predicted that as meaning in life scores increase in the subscale presence, perceived stress scores would decrease, but as the search subscale increases perceived stress scores would increase.

H3: Further, it was predicted that meaning of life scores of search and presence subscale scores would moderate the relationship between both types of perceived social support and perceived stress.

CHAPTER II: METHOD

Participants

After obtaining IRB approval (See Appendix A) from Middle Tennessee State University (MTSU), participants were recruited with cooperation from the MTSU Charlie and Hazel Daniels Veterans and Military Family Center. Participants were recruited by accessing military-affiliated students via listserv by Dr. Hillary Miller, Daniels Veteran Center Director (See Appendix B). Accompanying Dr. Miller's email was a letter from the researcher (See Appendix C) describing the study and included a link to the survey. To participate in the study, veterans must have served in the armed service regardless of branch, era, or affiliation. A total of 733 student veterans were sent the request to participate (See Appendix C), and a total of less than 3% of the veteran student body participated in the study ($N = 733$, $n = 19$). A sample of male and female veterans were gathered for this online study. Data were collected from 20 participants; however, one participant's responses were discarded because they only completed section A of the survey. As seen in Table 1, in this sample the most frequent category for age was 24 to 29 years old with 31.6 % of the sample reporting this category. Further, the largest racial group was Caucasian/White at 63.2% of the sample. Lastly, the sample was comprised of 13 males (68.4%) and 6 females (31.6%). No compensation was offered.

Table 1*Demographic Frequencies of Final Sample*

Variable	%	<i>n</i>
Age (Year)		
18-23	21.1	4
24-29	31.6	6
30-40	21.1	4
41-50	15.8	3
Prefer not to respond	10.5	2
Race		
African American/Black	21.1	4
Caucasian/White	63.2	12
Latino/Latina	5.3	1
Additional Category	10.5	2
Prefer not to respond	0	0
Gender		
Male	68.4	13
Female	31.6	6
Prefer not to respond	0	0

N = 19.

Measures

Demographics. Information about age in years (*e.g.*, 18-23; 24-29; 30-40, 41-50, 51+; *Prefer not to respond*), race/ethnicity (*African American/Black; Caucasian/White; Latino/Latina, Additional (Asian, Native American, Pacific Islander, or Mixed Race); Prefer not to respond*), and gender (*Male; Female; Other/ Prefer not to respond*) was gathered from participants.

Further, participants were asked about information based on veteran status involving branch of service (*Army; Air Force; Coast Guard; Marine Corp; Navy; Prefer not to respond*), the type of veteran service was (*Active; Reserve; Prefer not to respond*), whether the veteran served overseas (*Yes; No; Prefer not to respond*), whether the veteran received combat pay as defined as spending at least one day in an area deemed as a hazard zone (imminent danger pay; *Yes; No; Prefer not to respond*), the veteran's duration of service in years (*0-1; 2-4; 5-9; 10+; Prefer not to respond*), and time since separation in years (*0-2, 3-5, 6-9, 10+; Prefer not to respond*). Response options for participant demographic information have been carefully worded to make those who participate in the study less inadvertently identifiable. An option not to disclose demographic information was offered for each of these items (*i.e.*, *Prefer not to respond*). See Appendix D.

Perceived Stress Scale. The Perceived Stress Scale (PSS-10, Cohen et al., 1983) is a 10-item measure designed to assess the perception of stress. The PSS is a tool to assess the degree to which one evaluates life as stressful (Cohen et al., 1983). The PSS includes direct questions about an individual's current level of stress, and the items ask about emotions and cognitions during the past 30 days. The PSS asks about the

frequency of expressed feeling and thoughts in the last month. Responses are scored on a Likert-type scale 0 (*Never*) to 4 (*Very Often*). The PSS has scores ranging from 0 to 40 with 0-13 being considered low stress, 14-26 considered moderate stress, and 27-40 considered high stress.

The PSS-10 has been recently utilized with military populations (Abanes et al., 2020). The PSS-10 has been shown to have acceptable internal consistency with Cronbach's alpha being found to be .84 - .86 (Abanes et al., 2020). The PSS-10's test-retest coefficient alpha has been found to be .85 after 2 days and .55 after 6 weeks (Cohen et al., 1983). Appraised stress may be influenced by daily hassles, major events, and coping resources and, therefore, the measure has a temporal relationship with experiences that may decrease 4 to 8 weeks after assessment (Cohen et al., 1983). This relationship with time would suggest that the PSS-10 may not be appropriate to use across time due to the changes one may experience after the 4 to 8-week window. The current study's coefficient alpha was .92.

Multidimensional Scale of Perceived Social Support. The Multidimensional Scale of Perceived Social Support (MSPSS, Zimet et al., 1988) is a 12-item measure that assesses perceived social support on a Likert-type scale ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*). The MSPSS measure contains three subscales that allow participants to evaluate support from Friends (e.g., "I can talk about my problems with my friends"), Family (e.g., "My family really tries to help me"), and Significant Others (e.g., "I have a special person who is a real source of comfort to me"). Subscale scores range from 4 to 28, and full scale MSPSS scores can range from 12 to 84. Higher scores indicate higher levels of perceived social support.

The MSPSS was originally normed and validated in a sample of male and female college students, and the internal reliability for the total scale was a Cronbach's alpha of .88 (Zimet et al., 1988). Initial testing by authors (Zimet et al., 1988) produced coefficient alpha scores for subscales Significant Other (.91), Family (.87), and Friends (.85). The MSPSS also demonstrated adequate test-retest reliability at 2 to 3 months after the initial testing (.85, Zimet et al., 1988). Further, Zimet et al. (1988) found scores of the measure to be negatively correlated with symptoms of depression and anxiety, with higher levels of perceived social support being associated with lower levels of depression and anxiety symptoms. The coefficient alpha for the current study was .89.

Perceived Military-Based Social Support. The original Perceived Military-Based Social Support measure created by Smith et al. (2013) is a 4-item measure that assesses social support on a Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The military social support measure is comprised of items that address support specifically found from military-affiliated sources (e.g., "my closest friendships are with members of my platoon"). To address military specific social support after service, this study utilized the augmentation constructed by Wesselmann et al. (2018).

Wesselmann et al. (2018) added the word "veteran" to the original 4-items of the Smith et al. (2013) measure. For example, the item: "My closest friendships are with members of my platoon" was changed to "My closest friendships are with my members of my platoon/fellow veterans." Further, Wesselmann et al. (2018) constructed an additional 10 items to include items to measure social support from military-affiliated sources (e.g., "I feel encouraged by the military community to seek help for dealing with negative feelings [such as feeling 'down, anxious, or irritable']"). The extra items

created by Wesselmann et al. (2018) are on a Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) as the original 4-item measure.

Wesselmann et al. (2018) noted these additional items were designed to assess veterans' perceptions of support available to their families since family resources also can influence veterans' transition. Due to Wesselmann et al.'s (2018) augmentation, the authors conducted an exploratory factor analysis on the military-based social support items and two factors emerged. Factor 1 involves perceived accessibility and structural encouragement for servicemembers to use military-supported resources. Factor 2 focuses on perceived available social support from fellow veterans, which is of vital importance to the current study. Wesselmann et al. (2018) chose to combine both factors into one overall measure due to both factors correlating at .65, and the Cronbach's alpha being .93. The coefficient alpha for the current study was .82.

Meaning in Life Questionnaire. The Meaning in Life Questionnaire (MLQ) (Steger et al., 2006) is a 10-item measure of meaning in life and the search for meaning. The measure is comprised of two subscales (presence and search). The subscales utilize items for presence (e.g., "I understand my life's meaning") and for search (e.g., "I am searching for meaning in my life"). The measure utilizes a 7-point Likert-type scale ranging from 1 (*Absolutely Untrue*) to 7 (*Absolutely True*). Each of the two subscales are reported by the authors to have internal consistency coefficients above .80. Further, convergent validity has been reported with correlations of presence being positively correlated with life satisfaction and negatively correlated with depression. Search has been positively correlated with depression and sadness (Steger et al., 2006). The current study's coefficient alpha for presence was .88 and for search was .90.

Procedure

IRB approval was granted (See Appendix A). The Daniels Center director, Dr. Hillary Miller (See Appendix B), sent an email requesting participation to veteran students at MTSU. The principal investigator's cover letter (See Appendix C) was provided by Dr. Miller via the university Listserv. Informed consent (See Appendix E) was obtained from participants before they began the survey. Participants were given the questionnaires in an online format via Qualtrics. Demographic information was collected first, followed by the PSS (Cohen et al., 1983), MSPSS (Zimet et al., 1988), the PMBSS (Smith et al., 2013; Wesselmann et al., 2018), and the MLQ (Steger et al., 2006). Participants were debriefed (See Appendix F) after completing the study, and they were given contact information for the principal investigator and the faculty advisor. Participants also were presented with mental health resources in the debriefing form.

CHAPTER III: RESULTS

Descriptive Statistics

As seen in Table 2, 52.6% of the sample served in the Army and 84.2% served on active duty. Further, 73.7% of the sample served overseas, and 57.9% received combat pay. In this study, 52.6% of the sample separated from service in the last 2 years. Mean scores and standard deviations for each of the study variables (i.e., perceived stress, civilian-specific social support, military-specific social support, and meaning in life) also are included in the descriptive statistics for the current sample (See Table 3).

Hypotheses Testing

Hypothesis one explored the relationships between perceived social support and perceived stress. Bivariate analyses conducted explored the relationship between MSPSS (Zimet et al., 1988) total scores and PSS (Cohen et al., 1983) total scores. Additionally, bivariate analyses conducted explored the relationship between PMBSS (Smith et al., 2013; Wesselmann et al., 2018) total scores and PSS total scores (Cohen et al., 1983). As can be seen in Table 4, no significant correlations were found between perceived stress and perceived social support.

Using bivariate analyses, hypothesis two explored the relationship between perceived social support (civilian specific and military specific) and the subscales (presence and search) of the meaning in life questionnaire (MLQ; Steger et al., 2006). As can be seen in Table 4, no significant correlations were found between both perceived social support sources and meaning in life. Meaning in life scores, however, were found to be correlated with perceived stress scores (See Table 4). A significant positive correlation was found between PSS and search scores, and a significant negative

Table 2*Demographic Frequencies of Military Categories of Final Sample*

Variable	%	<i>n</i>
Branch		
Army	52.6	10
Air Force	21.1	4
Coast Guard	0.0	0
Marine Corps	21.1	4
Navy	5.3	1
Service Type		
Active	84.2	16
Reserve	15.8	3
Overseas/Deployment		
Yes	73.7	14
No	26.3	5
Duration of Service in Years		
0-1	0.0	0
2-4	31.6	6
5-9	42.1	8
10+	26.3	5
Time Since Separation in Years		
0-2	52.6	10
3-5	36.8	7
6-9	0.0	0
10+	5.3	1
Prefer not to respond	5.3	1
Hazardous Duty Pay		
Yes	57.9	11
No	42.1	8

N = 19.

Table 3*Sample Means and Standard Deviations for Measures*

Variable	Mean	<i>SD</i>
PSS	18.74	7.73
MSPSS	61.84	10.90
Family Support	20.37	4.55
Friend Support	19.05	4.64
Significant Other Support	22.42	5.18
PMBSS	44.89	8.33
MLQ		
Presence	26.16	5.10
Search	26.95	7.61

Note. *N* = 19. PSS = Perceived Stress Scale. MSPSS = Multidimensional Scale of Perceived Social Support. PMBSS = Perceived Military-Based Social Support. MLQ = Meaning in Life Questionnaire.

Table 4*Correlations Among Study Variables*

	1	2	3	4	5	6	7
1. PSS							
MSPSS							
2.Total	-.311		.	.			
3.FamS	-.283	.680**					
4.FriS	-.317	.815***	.370				
5.SOS	-.122	.778***	.222	.497*			
6.MBPSS	-.146	-.115	-.137	-.036	-.089		
MLQ							
7.Pre	-.671**	.357	.289	.216	.304	-.333	
8.Sea	.734***	-.305	-.365	-.179	-.160	.307	-.622**

Note. $N = 19$. PSS = Perceived Stress Scale, MSPSS = Multidimensional Scale of Perceived Social Support, FamS = Family Support, FriS = Friend Support, SOS = Significant Other Support, MBPSS = Military-Based Perceived Social Support, MLQ = Meaning in Life Questionnaire, Pre = Presence, and Sea = Search. Higher scores on the PSS indicate higher perceived stress. MSPSS higher scores on the total and subscales indicate greater perceived social support. Higher scores on the MBPSS indicate greater perceived social support. Higher scores on the MLQ Pre subscale indicate higher presence of meaning in life. Higher scores on the MLQ Sea subscale indicate higher search for meaning in life.

* $p < .05$. ** $p < .01$. *** $p < .001$.

correlation was found between PSS scores and presence.

Regarding hypothesis 3, the moderation model was not evaluated because significant correlations between perceived stress and perceived social support were not found.

CHAPTER IV: DISCUSSION

The current study was designed to investigate the correlations between perceived stress and perceived social support (military and civilian) within the veteran population. Further, the study investigated if the source of social support rendered was of consequence to the correlations between perceived stress and perceived social support. Additionally, the study sought to test the moderating effect of meaning in life (presence and search) upon the predicted association between perceived stress and both elements of perceived social support. Contrary to what was predicted, no significant correlations emerged between perceived stress and perceived social support. A number of factors could be related to why the current study deviated from previous findings (Cohen & Wills 1985; Thoits 1986).

One factor that could have led to a deviation from the literature was a low response rate. A possible explanation for this low response rate could lie within how the survey was distributed. COVID-19 restrictions made an online-based study the most practical for recruitment of participants, but may have led to complications unique to the veteran population. College students generally receive many emails a day from administrators, and veteran students may simply have not seen the invitation to participate. Further, the veteran culture itself may have had some influence on low response rates. Within the military culture, one may become accustomed to disregarding many command level emails for how redundant they can be. Veteran students may be particularly socialized to filter out emails that are not directly related to immediate task completion.

Another possible explanation for low response rate may be a cultural one in nature, yet again. The veteran population may have a hesitancy to participate in research, making collecting surveys more challenging. Veterans may have suspicions related to answering survey questions due to the practice related to command climate surveys that often lead to harsh criticisms from commanders when servicemembers answered honestly. These previous experiences may cause veteran students to be less likely to participate in research. Regardless of the reasons for the low response rate, with less than 3% of the veteran students on campus participating, limitations in analyses are of concern. The study had eight variables and a sample size of this magnitude made statistical power a serious issue for drawing conclusions.

Another limitation may lie within a lack of suitability of employing a veteran sample within the college population. Researchers are forced to stay within pockets of veterans available to them within academic settings, such as university samples, which may have generalizability issues. Previous research is scant on the veteran population and that may be a byproduct of a lack of access to veteran populations for data collection. Structural barriers to research may greatly limit the amount of veterans who can participate in studies due to forces beyond the control of researchers (e.g., samples are limited to VA approved entities for a more general population of veterans).

The veteran community is largely not represented within a college sample, which could lead to some skewing of the data. Veterans who go to college may be a very specific subset of the veteran population that utilizes different resources than the general veteran population. Student veterans may be categorized as high functioning due to their ability to navigate from the hierarchy of the uniform to the classroom. Veterans in the

general population may not have the same strengths as veteran students, and this factor may cause an issue with generalizability. Veterans in the general population may appraise events differently than veteran students. Veterans outside of the university may not have the same levels of self-efficacy as student veterans, and this may lead veteran students to perceive stress differently. The university is by definition a challenging transition that all students must undertake and veterans who do not utilize their Post 9/11 G.I. Education Benefits may appraise life as more stressful compared to their college going compatriots.

A more practical issue for the findings of the study is related to the measures chosen for the study. As previously mentioned, the body of research with the veteran population is limited and is hindered by structural barriers to researchers, which makes research done to test the suitability of measures with the veteran population challenging. Further, the order of the measures in this study may have inadvertently caused participants to answer questions differently. The civilian-specific social support portion was placed before the military-specific social support portion, and this may have caused participants to think of “military buddies” in the portion of the questionnaire that asks about friend support. With the low response rate, it is challenging to speculate how much of an impact the order had upon the study.

Although not a focus of the study, a correlation between meaning in life scores and perceived stress did occur with the subscale of presence being negatively correlated with perceived stress and the subscale of search being positively correlated. These findings may suggest that those who report feeling a sense of meaning in life may feel that their life is less stressful. The reciprocal seems likely as well, as higher scores on the

search subscale for meaning in life may lead to a higher sense of stress in one's life. The correlations between perceived stress and the meaning in life subscales may be of interest for future research; with so few participants, it is important to replicate these findings.

Future exploration may seek to overcome some of the limitations described within this study, but may want to revisit the unique social factors that are found within the veteran population. The explanation may lie within the work of Victor Frankl (2006); meaning in life can be found in other people, and those who reported having a sense of presence may have higher social support resources than this study reflects. The inverse may also be likely, those who report a higher sense of searching for meaning in life may also have less social support than what is reflected here. One may exercise caution in speculating that social support is less important to the stress response within the veteran population. Veterans may appraise meaning in life much more closely related to other people than this study indicates. The military culture has a strong sense of relying on members of the uniform and this may be hiding beneath the surface of the study's findings.

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APPENDICES

Appendix A

IRB Approval Page

IRB**INSTITUTIONAL REVIEW BOARD**

Office of Research Compliance,

010A Sam Ingram Building,

2269 Middle Tennessee Blvd

Murfreesboro, TN 37129

FWA: 00005331/IRB Regn. 0003571

**IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE**

Monday, February 07, 2022

Protocol Title **The Relationship between Stress and Social Support in the Veteran Community**
Protocol ID **22-2090 Tq**

Principal Investigator **Ryan Cornelius** (Student) *Faculty Advisor: Mary Ellen Fromuth*
Co-Investigators NONE
Investigator Email(s) rhc2n@mtmail.mtsu.edu; Maryellen.fromuth@mtsu.edu
Department Psychology
Funding NONE

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU IRB through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category (7) *Research on individual or group characteristics or behavior*. A summary of the IRB action is tabulated below:

IRB Action	APPROVED for ONE YEAR		
Date of Expiration	2/28/2023	Date of Approval: 2/7/22	Recent Amendment: NONE
Sample Size	EIGHT HUNDRED (800)		
Participant Pool	Target Population: Primary Classification: General Adults (18 or older) Specific Classification: US Armed Forces Personnel (current or prior)		
Type of Interaction	<input type="checkbox"/> Non-interventional or Data Analysis <input checked="" type="checkbox"/> Virtual/Remote/Online interaction <input type="checkbox"/> In person or physical interaction – Mandatory COVID-19 Management		
Exceptions	NONE		
Restrictions	1. Mandatory ACTIVE Informed Consent. 2. Other than the exceptions above, identifiable data/artifacts, such as, audio/video data, photographs, handwriting samples, personal address, driving records, social security number, and etc., MUST NOT be collected. Recorded identifiable information must be deidentified as described in the protocol. 3. Mandatory Final report (refer last page).		
Approved Templates	IRB Templates: Recruitment Email and Online Informed Consent Non-MTSU Templates: Debriefing Statement		
Research Inducement	NONE		
Comments	NONE		

Post-approval Requirements

The PI and FA must read and abide by the post-approval conditions (Refer "Quick Links" in the bottom):

- **Reporting Adverse Events:** The PI must report research-related adversities suffered by the participants, deviations from the protocol, misconduct, and etc., within 48 hours from when they were discovered.
- **Final Report:** The FA is responsible for submitting a final report to close-out this protocol before **2/28/2023** (Refer to the Continuing Review section below); **REMINDERS WILL NOT BE SENT. Failure to close-out or request for a continuing review may result in penalties** including cancellation of the data collected using this protocol and/or withholding student diploma.
- **Protocol Amendments:** An IRB approval must be obtained for all types of amendments, such as: addition/removal of subject population or investigating team; sample size increases; changes to the research sites (appropriate permission letter(s) may be needed); alternation to funding; and etc. The proposed amendments must be requested by the FA in an addendum request form. The proposed changes must be consistent with the approval category and they must comply with expedited review requirements
- **Research Participant Compensation:** Compensation for research participation must be awarded as proposed in Chapter 6 of the Expedited protocol. The documentation of the monetary compensation must Appendix J and MUST NOT include protocol details when reporting to the MTSU Business Office.
- **COVID-19:** Regardless whether this study poses a threat to the participants or not, refer to the COVID-19 Management section for important information for the FA.

Continuing Review (The PI has requested early termination)

Although this protocol can be continued for up to THREE years, The PI has opted to end the study by **2/28/2023**. The PI must close-out this protocol by submitting a final report before **2/28/2023**. Failure to close-out may result in penalties that include cancellation of the data collected using this protocol and delays in graduation of the student PI.

Post-approval Protocol Amendments:

The current MTSU IRB policies allow the investigators to implement minor and significant amendments that would fit within this approval category. **Only TWO procedural amendments will be entertained per year** (changes like addition/removal of research personnel are not restricted by this rule).

Date	Amendment(s)	IRB Comments
NONE	NONE	NONE

Other Post-approval Actions:

The following actions are done subsequent to the approval of this protocol on request by the PI/FA or on recommendation by the IRB or by both.

Date	IRB Action(s)	IRB Comments
NONE	NONE	NONE

COVID-19 Management:

The PI must follow social distancing guidelines and other practices to avoid viral exposure to the participants and other workers when physical contact with the subjects is made during the study.

- The study must be stopped if a participant or an investigator should test positive for COVID-19 within 14 days of the research interaction. This must be reported to the IRB as an "adverse event."
- The MTSU's "Return-to-work" questionnaire found in Pipeline must be filled by the investigators on the day of the research interaction prior to physical contact.
- PPE must be worn if the participant would be within 6 feet from the each other or with an investigator.
- Physical surfaces that will come in contact with the participants must be sanitized between use
- **FA's Responsibility:** The FA is given the administrative authority to make emergency changes to protect the wellbeing of the participants and student researchers during the COVID-19 pandemic. However, the FA must notify the IRB after such changes have been made. The IRB will audit the changes at a later date and the FA will be instructed to carryout remedial measures if needed.

Data Management & Storage:

All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol

Institutional Review Board, MTSU

FWA: 00005331

IRB Registration: 0003571

application. The data must be stored for at least three (3) years after the study is closed. Additional Tennessee State data retention requirement may apply (*refer "Quick Links" for MTSU policy 129 below*). The data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects.

The MTSU IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

- Post-approval Responsibilities: <http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php>
- Expedited Procedures: <https://mtsu.edu/irb/ExpeditedProcedures.php>
- MTSU Policy 129: Records retention & Disposal: <https://www.mtsu.edu/policies/general/129.php>

Appendix B

Veteran Center Director Letter

Veterans and Military Family Center
 MTSU Box 74
 1301 East Main Street
 Murfreesboro, TN 37132
 o: (615) 904-8347
mtsu.edu/military



16 DEC 2021

IRB Committee,

I, Dr. Hilary Miller, Director of MTSU's Charlie and Hazel Daniels Veterans and Military Family Center, agree to coordinate with veteran graduate student Ryan Cornelius to utilize the Daniels Center's listserv to recruit participants for his master's thesis, "The relationship between stress and social support in the veteran community."

I have worked with Mr. Cornelius for several years and we have discussed his research many times. Mr. Cornelius will provide me with a copy of his approved IRB for this research. Once I have received that, I will send out the recruitment email(s) to the veteran student body with a link to a Qualtrics survey where veteran students will be given an opportunity to participate.

At any point, please feel free to contact me to discuss.

v/r

Dr. Hilary Miller
 Director
 Charlie and Hazel Daniels
 Veterans and Military Family Center

Appendix C

IRB Recruitment Email

IRBF007b – PARTICIPANT RECRUITMENT EMAIL

All the fields are mandatory. The IRB will not make changes to the font size or style. No images will be allowed and there will be no exceptions to all the requirements. The IRB may impose additional restrictions and requirements during the review. The approved email script will be sent in a locked format but the PI will be able copy and paste the text.

INSTRUCTIONS

Use the following script for recruitment

Subject line(s) for email recruitment

RE: Veteran Research Opportunity

Body of the script/email:

Dear Veteran,

Hello! My name is Ryan Cornelius, and I am veteran and a Clinical Psychology graduate student. I am contacting you today to ask for your participation in my thesis. This study will help contribute to the knowledge about issues concerning transition from the uniform, and how stress and social support may impact how you transition back into civilian life. Participants need to be at least 18 years old and are a veteran. I know how precious your time is and I am certainly grateful for your help.

Please retain this email for future correspondence. The primary researcher's email is rhc2n@mtmail.mtsu.edu

Respectfully,
Ryan Cornelius
Master's Candidate
Former United States Sailor

Study Description & Purpose – The study will examine whether different types of social support and different personality traits predict perceived stress. Participants, after reading and giving informed consent, will fill out demographic information and information about their military service. Participants will answer questions about perceived stress, social support (civilian and then military), and various personality traits. All information will remain anonymous.

IRB Details:

- **Protocol Title:** The relationship between stress and social support in the veteran community.
- **Primary Investigator:** Ryan Cornelius
- **PI Department & College:** Psychology, College of Behavioral and Health Sciences, Middle Tennessee State University
- **Faculty Advisor (if PI is a student):** Dr. Mary Ellen Fromuth
- **Protocol ID:** 22-2090 7q **Approval Date:** 02/07/2022 **Expiration Date:** 02/28/2023

Target Participant Pool – Veteran Students

Risks & Discomforts – There are minimum risks involved in participation. The risk, however, is not greater than you would experience in everyday life. We are, however, asking about your current stress levels, which may lead you to recall stressful events. If you experience any discomfort, services available to you will be given in the debrief. Your mental health is of the utmost concern and if at any time the subject matter becomes uncomfortable you may terminate your participation.

Benefits – The study will expand the knowledge that is available about stress in the military population and how our relationships may impact how we view stressful events, but the study will not benefit you directly.

Additional Information – The study will require your sustained attention and effort in reading the questions and selecting accurate responses that best reflect your experiences. To participate one must be able to sit for a period of less than 30 minutes and be able to understand the questions being asked for participation. Participation should not last longer than 30 minutes.

Compensation – There is no compensation.

Contact Information – Principal Investigator-Ryan Cornelius, rhc2n@mtmail.mtsu.edu, 615-801-5850. Faculty Advisor-Mary Ellen Fromuth, maryellen.fromuth@mtsu.edu.

Please enter the survey by clicking the link in the bottom of the email. You will be given a chance to read the entire informed consent to assist you make a final determination.

As a fellow veteran, I would like to take the opportunity to thank you for your time and consideration on this matter.

Yours Sincerely,

Ryan Cornelius

Qualtrics link for Survey – https://mtsu.ca1.qualtrics.com/jfe/form/SV_55URfb476Di9GPs

Appendix D
Survey Demographic Items

Demographic Information

1. Age

1. 18-23
2. 24-29
3. 30-40
4. 41-50
5. 51+
6. Prefer not to respond

2. Race/Ethnicity Note: In order to protect your identity, some race/ethnicity categories have been grouped under “Additional” category. This was done to keep groups with smaller numbers from unintentionally being identifiable.

1. African American/Black
2. Caucasian/White
3. Latino/Latina
4. Additional (e.g., Asian, Native American, Pacific Islander, Mixed Race)
5. Prefer not to respond

3. Gender

1. Male
2. Female

3. Other/ Prefer not to respond

4. Branch of Service

1. Army

2. Air Force

3. Coast Guard

4. Marine Corp

5. Navy

6. Prefer not to respond

5. Please indicate if you are/were

Note: If you spent time in both active and reserve capacities, circle the option you identify with more strongly.

1. Active

2. Reserve

3. Prefer not to respond

6. Have you ever served overseas?

1. Yes

2. No

3. Prefer not to respond

7. Did you ever receive combat pay, as defined as spending at least one day in an area deemed as a hazard zone (imminent danger pay)?

1. Yes

2. No

3. Prefer not to respond

8. Duration of Service in Years-

1. 0-1
2. 2-4
3. 5-9
4. 10+
5. Prefer not to respond

9. Time in Years Since Separation-

1. 0-2
2. 3-5
3. 6-9
4. 10+
5. Prefer not to respond

Appendix E

IRB Informed Consent

IRB

INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129



IRBF024 - INFORMED CONSENT for ONLINE STUDIES

(Use this consent template when recruiting adult participants when online data are collected)

Mandatory Consent Requirements for online use:

- a. Use the same text used in this form when requesting online consent from the participants – Provide the online consent link for IRB review
- b. The first page of the survey must display this informed consent text.
- c. Participants' consent to participate must be entertained by two distinct responses: one to consent and one to decline.
 - i. The participant age must be verified through a separate question
 - ii. Agreeing to consent and age verification must both be true before the online instrument can be administered.

IRBF024 – Participant Informed Consent (ONLINE)

Language to be used for online surveys that qualify for “no more than minimal risk”

Use the following text as printed here in the first page of the Qualtrics survey to administer online informed consent. Alterations to this template are allowed on a case by case basis. However, making alterations would delay the review and approval process.

Information and Disclosure Section

The following information is provided to inform you about the research project in which you have been invited to participate. Please read this disclosure and feel free to ask any questions. The investigators must answer all of your questions and please save this page as a PDF for future reference.

- Your participation in this research study is voluntary.
- You are also free to withdraw from this study at any time without loss of any benefits.

For additional information on your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance (Tel 615-494-8918 or send your emails to irb_information@mtsu.edu. URL: <http://www.mtsu.edu/irb>).

Please read the following and respond to the consent questions in the bottom if you wish to enroll in this study.

1. **Purpose:** This research project is designed to help us evaluate variables that predict perceived stress among veterans. Specifically, the study will examine whether different types of social support and different personality traits predict perceived stress.
2. **Description:** There are several parts to this project. They are:
 - o Participants, after reading and giving informed consent, will fill out demographic information and information about their military service. Participants also will answer questions about

perceived stress, social support, and various personality traits. All information will remain anonymous. The study will require your sustained attention, and effort in reading the questions and selecting accurate responses that best reflect your experiences.

- This consent script only covers surveys conducted online
- You will NOT be audio recorded or videotaped in this study.

3. IRB Approval Details

- Protocol Title: The relationship between stress and social support in the veteran community
- Primary Investigator: Ryan Cornelius
- PI Department & College: Psychology, College of Behavioral and Health Sciences
- Faculty Advisor (if PI is a student): Mary Ellen Fromuth
- Protocol ID: 22-2090 7q Approval Date: 02/07/2022 Expiration Date: 02/28/2023

4. **Duration:** The whole activity should take about 30 minutes. The participants must at least take 1 minute to complete the survey.

5. Here are your rights as a participant:

- Your participation in this research is voluntary.
- You may skip any item that you don't want to answer, and you may stop the experiment at any time (but see the note below)
- If you leave an item blank by either not clicking or entering a response, you may be warned that you missed one, just in case it was an accident. But you can continue the study without entering a response if you didn't want to answer any questions.
- Some items may require a response to accurately present the survey.

6. **Risks & Discomforts:** There are minimum risks involved in participation. The risk, however, is not greater than you would experience in everyday life. We are, however, asking about your current stress levels, which may lead you to recall stressful events. If you experience any discomfort, services available to you will be given in the debrief. Your mental health is of the utmost concern and if at any time the subject matter becomes uncomfortable you may terminate your participation. There will be no compensation in case of injury.

7. Benefits:

- a. Benefits to you that you: There are no direct benefits to you from this study.
- b. Benefits to the field of science or the community: The study will expand the knowledge that is available about stress in the military population and how our relationships may impact how we view stressful events.

8. **Identifiable Information:** You will NOT be asked to provide identifiable personal information.

9. **Compensation:** There is no compensation for participating in this study.

10. **Confidentiality.** All efforts, within reason, will be made to keep the personal information private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, if you or someone else is in danger or if we are required to do so by law.

11. **Contact Information.** If you should have any questions about this research study or possibly injury, please feel free to contact Ryan Cornelius by telephone 615-801-5850 or by email

Institutional Review Board Office of Compliance Middle Tennessee State University
 rhc2n@mtmail.mtsu.edu OR my faculty advisor, MaryEllen Fromuth, at
 maryellen.fromuth@mtsu.edu. You can also contact the MTSU Office of compliance via telephone
 (615 494 8918) or by email (compliance@mtsu.edu). This contact information will be presented
 again at the end of the experiment.

You are not required to do anything further if you decide not to enroll in this study. Just quit your browser. Please complete the response section below if you wish to learn more or you wish to part take in this study.

Participant Response Section

- ☐ No ☐ Yes I have read this informed consent document pertaining to the above identified research
☐ No ☐ Yes The research procedures to be conducted are clear to me
☐ No ☐ Yes I confirm I am 18 years or older
☐ No ☐ Yes I am aware of the potential risks of the study

By clicking below, I affirm that I freely and voluntarily choose to participate in this study. I understand I can withdraw from this study at any time without facing any consequences.

- ☐ NO I do not consent
☐ Yes I consent

Appendix F

Debriefing Form

Debriefing Form

This study asked about how you perceive stress and how people's support around you may impact your stress levels. These topics may have inadvertently caused you to think about events in your life that are distressing. Such a reaction is completely normal and should not be viewed as a character issue. If you feel as if you need support in processing any thoughts/feelings associated with your participation, the MTSU Counseling Service is available to all students and is located in the KUC, 3rd Floor above the dining facilities. For appointments and other details, call (615) 898-2670.

Additionally, if you are able or willing to receive services at the Veterans' Affairs, the Alvin C. York VA Medical Center is located at 3400 Lebanon Rd, Murfreesboro, TN 37129. For appointments and other details call (615) 867-6000. If at any point you feel as if you are in crisis and need to speak to someone immediately the Military/Veteran Crisis Line (1-800-273-8255) is available 24 hours a day, 7 days a week.

Further, if you need additional support with other issues related to MTSU (i.e., post-911 G.I. benefits or employment after graduation) the Charlie and Hazel Daniels Veterans and Military Family Center is located on campus at the KUC, behind the post office. For help with a variety of issues either walk in or call (615) 904-8347. Lastly, if you have any questions about the study or if you want the results of the study contact the principal investigator. It may take up to six months after the study is completed for

results. For further details you may contact the Institutional Review Board at irb_information@mtsu.edu or (615) 898-2400.

Principal Investigator- Ryan Cornelius

Rhc2n@mtmail.mtsu.edu

Faculty Advisor- Mary Ellen Fromuth

maryellen.fromuth@mtsu.edu