A Deeper Inquiry into the Transitional Needs of Student Veterans

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A Deeper Inquiry into the Transitional Needs of Student Veterans

Nathan Bridendolph, M.S.

Dissertation submitted
To the College of Education and Human Services
At West Virginia University
In partial fulfillment of the requirements for the degree of

Doctor of Philosophy
In
Counseling Psychology

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Abstract

A Deeper Inquiry into the Transitional Needs of Student Veterans

Nathan Bridendolph, M.S.

Previous research revealed that veterans transitioning to post-secondary institutions have unique characteristics (PNPI, 2018; Wurster et al., 2013) and may suffer from a constellation of physical, psychological, and social problems that can impact their ability to perform to their full potential on campus (Ackerman et al., 2009; Alschuler & Yarab, 2016; Igielnik, 2019). Despite knowing the struggles student veterans (SVs) face when transitioning to campus, no studies were found that directly gain SVs’ input on what they believe will help their transition. The current study sought to gain a holistic perspective of SV needs by using the biopsychosocial model and to garner SVs’ qualitative and quantitative input through concept mapping. Student veterans in this study (n=10) created a finalized list of 17 statements they felt would best meet their needs when transitioning to college. Veterans then sorted (n=12) these 17 statements based on their perceived relationship to one another into five groups: (1) social; (2) group; (3) informational; (4) veteran accommodation; (5) other mental health options. Lastly, SVs rated (n=43) these statements on a Likert-type scale from 1 (relatively unimportant) to 5 (extremely important) (Trochim & McLinden, 2017, p. 167). Participants in this study believed the top 5 services that would benefit their transition were: (1) Assistance with GI bill and Chapter 31 benefits; (2) Designated counselors on campus who are familiar with veteran needs; (3) Education for professors and instructors on veteran needs; (4) Greater resources such as tutoring and campus events to foster connection; (5) Have veteran specific group therapy options. Implications for college administrators and SVs are discussed, as well as strengths and limitations of the study and suggestions for future research.
Dedication

This dissertation is dedicated to the memory of my father, Nathan Calvin Bridendolph Sr. It is through his example that I have learned the value of hard work, discipline, and perseverance. Each of these characteristics was called upon in the completion of this dissertation and program. In short, I would not have been able to accomplish this goal without your love and guidance.
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My journey through this program was also a testament to the love and support of my cohort. Academically, each of you contributed to this success through long nights of studying and proofreading papers. But beyond academics, you accepted me as a friend, and offered me love and support in the darkest moments of the journey. I will forever be indebted to your kindness.

I would also like to acknowledge the faculty of the program for believing in and supporting me throughout this journey. Whether it be through the curriculum provided or through additional conversations, your knowledge and wisdom have helped mold me into a more compassionate and informed member of the mental health community. Additionally, the members of my dissertation committee, Dr. Jeffrey Daniels, Dr. Lisa Platt, Dr. George Mombeleo, and Dr. Laura Hayward, must also be acknowledged for their willingness to take on the additional duty of guiding me in this long process. Lastly, I would like to acknowledge the
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Chapter 1: Introduction

Since both the passage of the Post 9/11 GI Bill in 2008, and the reduction of troop strength in the OEF and OIF conflicts, there was a swell in veterans attending colleges and universities in America. That number grew from 397,598 in 2000, to 1,000,089 in 2016 (U.S. Department of Veterans Affairs [VA], 2017), which accounts for a 40% increase in the number of veterans on college campuses. McCaslin et al. (2013) noted this influx of student veterans (SVs) accounts for $10.5 billion in utilized government benefits. These numbers suggest that colleges and universities should be investing significant resources to ensure these SVs complete their educational goals.

Veterans transitioning to college bring a wealth of knowledge and experience that could help enrich the campuses to which they transition. Unfortunately, they also have distinct differences that impact their ability to transition to the college setting. To best conceptualize the myriad of problems that SVs face, a biopsychosocial model may be the best framework to consider. This model may account for the psychological, interpersonal, and biological, or physical, problems that impact student veterans. Since campus resources are limited, encompassing a holistic framework can help administrators and counselors better implement plans to help ensure a successful transition and improve retention and graduation rates of SVs.

Currently the increase in SVs on campus collides with the expanding need for counseling services. Research indicates that the demand for counseling services increased by 30% in just five years (Winerman, 2017). This increase in help-seeking by students places the nationwide student-to-counseling-staff ratio at 1,731 to 1 (Winerman, 2017). This sizable therapist-to-student ratio stresses the need for more counselors in college settings to assist the climbing veteran population. Additionally, counseling centers will likely need therapists equipped with
specialized skills as SVs’ counseling needs may differ from traditional students. For example, the three chief complaints for traditional college students are anxiety, depression, and stress (Winerman, 2017), whereas the top two mental health problems OIF/OEF veterans face are PTSD and depression (Campbell & Riggs, 2015).

Although psychological needs are an important consideration, the veteran population is diverse and other factors impact the transition process. Wurster et al. (2013) reported that 66% of combat veterans were first-generation college students. First generation students are twice as likely to drop out during their first year of college, have weaker academic preparation, and are less engaged in the campus community (Durdella & Kim, 2012) than non-first-generation college students. Also, veterans tend to be older than traditional college students. Nearly 80% of SVs are 24 years-old when they reach campus compared to only 6% of non-veterans (Wurster et al., 2013). SVs are also more likely to be married and have dependents than their traditional peers, making money, housing, and finding part-time employment a necessity. Each of these differences may impair SVs’ ability to relate to traditional students on campus, possibly leaving them feeling isolated.

Veterans also suffer from various physical problems such as physical injuries suffered during their time in service. These ailments may impact their ability to perform in the classroom. Research indicated that veterans return with such impairments as traumatic brain injuries (TBI), musculoskeletal injuries, chronic pain, and the biological restructuring of the brain that can be caused by trauma (Kennedy et al., 2019; Phillips et al., 2016). These physical injuries can impact concentration, memory, and attendance, thus decreasing students’ ability to perform in the classroom.
Colleges are working to address the varying needs of SVs. Cleveland et al., (2016) reported that 62% of postsecondary institutions offered programs and services specifically for veterans. However, there is past evidence that SVs feel less support than their non-veteran student peers (Kim & Cole, 2013). Universities continue to struggle in retaining SVs and helping them to academically succeed. The rates of graduation from post-secondary institutions is unclear since a national database does not exist. Estimates range from 53.6% (Student Veterans of America [SVA], 2017) to 60-70% (Elliot, 2015) of SVs completing their postsecondary programs within six years. In aggregate, these numbers are comparable with traditional college students, which is encouraging (National Student Clearinghouse Research Center [NSC], 2015). However, a closer look reveals that some colleges graduate over 80% of their veterans while others do not graduate any of their veterans (Marcus, 2017). Furthermore, SVs who do complete their program tend to have lower grade point averages than traditional college students (Elliot, 2015). To improve these numbers, more must be known about the problems veterans face when transitioning to and performing in college. Continuing to study the SV population could help gain insight into this population’s varying needs and allow mental health professionals to focus on the most requested areas of need.

**Extent of the Problem**

In a recent survey conducted at a large, land-grant university, 58% of veteran participants identified mental health counseling as an important component for a successful transition to college (West Virginia University, 2018). Therefore, college counselors should be at the forefront of the efforts to help improve SVs’ transition experience. However, knowing that SVs are asking for mental health services is only part of the equation. For instance, colleges and universities have mental health services on campus but it is unclear in the literature if these mental health
services are being utilized by SVs. Additionally, no studies were found that discuss how veterans view the services that are provided in college counseling centers.

Furthermore, SVs in the university survey identified an additional seven valuable resources they believed would aid in their transition to college. These suggested resources included: (1) meeting with academic advisors, (2) meeting with veteran certifying officials, (3) having the opportunity to talk with other veterans, (4) having a place to decompress, (5) receiving counseling on debt management, investments, and financial management, (6) having a comfortable place to hang out between classes, and (7) having the ability to receive spiritual counseling (West Virginia University, 2018). These results confirm that SVs asked for services that are best addressed using a biopsychosocial model.

Understanding what SVs believe they need will require their input. Without asking SV cohorts what they need to successfully transition to the university setting, SVs may continue to struggle, and universities could lose thousands of dollars as veterans leave their school. Currently there is a gap in the literature between what SVs may be struggling with (i.e., mental health problems, physical disabilities, finances) and what they believe they are lacking on college campuses to help their transition. This study will attempt to address this gap by asking SVs what specific services they believe will aid their transition to college. The extent of the problem will be further expounded upon in later in this paper (See Chapter 2).

**Purpose Statement**

SVs have historically faced many challenges upon transition to college. The purpose of this mixed method study is to better understand the biopsychosocial supports that SVs think they need. The data could be used to create programs that will improve SVs’ mental health and facilitate a successful transition to higher education. These efforts may help to improve the
transition period for SVs, help retention and graduation rates, and could save the universities money from lost tuition or in failed programming.

Theoretical Framework

The biopsychosocial model in its simplest form is “a way of understanding how suffering, disease, and illness are affected by multiple levels of organization, from the societal to the molecular” (Borrell-Carro et al., 2004, p. 576). The biopsychosocial model was selected for this study because it is a comprehensive theory from which to conceptualize student veterans via the three components (psychological, interpersonal, and biological). Moreover, this model is likely familiar to many counselors. The biopsychosocial model will be explained in further detail in Chapter 2.

Research Question

What do SVs believe colleges and universities can do to help address their psychological, interpersonal, and biological (i.e., physical) needs to ensure a successful transition from the military to the campus setting?

As there is little research identified that asks SVs what services they believe universities can provide to improve their transition, a quantitative study may be too limiting. The veteran population is diverse, and this diversity may create a wide range of answers. A mixed method, concept mapping approach has been selected to give participants the opportunity to both generate ideas and rank their importance. This method will also provide university administrators with a series of maps detailing the responses of the SVs, creating an easy to read document for policy makers to assess.

Overview of Research Design
A mixed method study is proposed using concept mapping. Concept mapping is a procedure that fosters the participation of stakeholders by involving them in the collection, interpretation, and discussion of the data (Kane & Trochim, 2007). More specifically, stakeholders brainstorm ideas, sort the ideas generated, and rate each idea in order of importance to them. Concept mapping combines the strengths of qualitative and quantitative methodologies by gathering nuanced feedback that cannot be achieved using quantitative methods and enhancing the data collected through “sophisticated multivariate statistical methods to produce a well-defined, quantitative set of results” (Kane & Trochim, 2007, p. 1).

This study called on a group of SVs to generate ideas they believed would help with their transition to college. These ideas were then uploaded into a computer program where SVs could group the generated ideas in the brainstorming session into categories and sort them based on individual preference. The research question addressed the three core principles of the biopsychosocial model (i.e., psychological, interpersonal, and physical) to convey the needs of the SV.

The sample was drawn from SVs on social media (i.e., Facebook). Participants were students who identified as veterans who served in one of the branches of the U.S. Armed Forces prior to attending college. Initially a group of 8-15 SVs were recruited using convenience sampling to participate in a brainstorming session to generate answers to the research question (Jackson & Trochim, 2002). Once this list was generated the results were uploaded into a computer-based survey. From there, the survey was embedded in a shareable Facebook post. More details about the specific design of the study were provided in Chapter 3.

In summary, veterans are a diverse group of individuals with a shared culture and rich life experience. Unfortunately, they may also bring a challenging array of physical and mental health
challenges that could impact their ability to transition successfully to college. In order to better assist this transition from the military to college it would be helpful to gain the SVs’ perspectives on what colleges can do to help. This proposed study helped address this gap in the literature using mixed method concept mapping to gather qualitative data about what SVs believe they need for a more successful transition and allowing a larger group of SVs to rank the data to give a quantitative value to each suggestion generated.
Chapter 2: Literature Review

Student Veterans

Veteran is a term generally used to describe a person who has served in the military in some capacity. Each veteran has their own unique experience while serving that includes (but is not limited to) their job, branch of service, station location, deployment history, combat exposure, and the rank they attained. In addition, veterans share a culture of sacrifice, discipline, uniformity of dress, speech, and thought, as well as a deep commitment to the team to which they belong and the mission they were assigned to accomplish (Burek, 2018). The term student veteran (SV) refers to a person who currently or previously served in the military and is enrolled in a form of post-secondary education (i.e., four-year institutions, community colleges, technical training) (Vacchi & Berger, 2014). This population includes students who are currently serving in an active or reserve fashion and those who have separated or retired from active or reserve duty.

Since the introduction of the G.I. Bill in 1944, nearly 5.2 million veterans completed a postsecondary degree or credential (Postsecondary National Policy Institute [PNPI], 2018). The average age of this population at the beginning of their postsecondary training is 25 years, with a majority ranging between 24 and 40 years old (PNPI, 2018). In contrast, only 6% of non-veteran students are over 24-years of age when they begin college (Wurster et al., 2013). The impact of starting college later in life compared to the non-military student population can lead to differing responsibilities between groups. For example, nearly 50% of SVs reported being married and almost 50% reported having children (PNPI, 2018). In comparison, less than seven percent of traditional age college students reported being married (Campus Explorer, 2020). Student veterans may more aptly be compared to college students labeled nontraditional. Nontraditional
college students are defined by having one or more of the following characteristics: being older (over the age of 24), having a family or dependents, living off campus, employment status, or being enrolled in a non-degree occupational program (National Center for Educational Statistics, 2020). However, because SVs may share common characteristics of nontraditional students, it is unclear if they are included in the nontraditional student data. For instance, one study reported that 27% of nontraditional students had at least one dependent, but that study did not mention if SVs were included in the data set (NCES, 2015). Due to the age of SVs and the likelihood of being married and/or having children, living on campus may not be an option.

Regarding the diversity of SVs, 63% identified as White, 17% identified as Black, 14% were Hispanic, and 6% identified as “other” (PNPI, 2018). Additionally, 73% were male and 27% were female. Interestingly, these numbers do not accurately reflect the current demographic profile of the military. As of 2016, 12% of service members reported being Black, 7% reported being Hispanic, 91% stated they were male and 9% stated they were female (Bialik, 2017). The discrepancy in these numbers indicates that greater percentages of women and Black veterans are transitioning to college campuses. This discrepancy is significant because it is anticipated by Bialik (2017) that Black individuals and females will be more likely to enter the service at increasingly higher rates in the coming years. This potential increase in a more diverse military could lead to an even higher percentage of Black and female veteran students in the future.

Academically, veterans’ interests are varied. As of 2015, 54% of SVs enrolled in an associate degree or certificate program, while 44% enrolled in a bachelor’s degree program (PNPI, 2018). The top fields of study for veterans attending college in 2015 were business (18%), health professions (15%), and engineering (8%), with 14% of veterans receiving degrees in a STEM field (PNPI, 2018). SVs had an average grade point average (GPA) of 3.35 (PNPI,
2018), and it is estimated that between 53-70% of SVs completed their postsecondary programs within six years (Elliot, 2015; Student Veterans of America [SVA], 2017).

On the surface, the veteran population is performing well in college, in which veteran students graduate at higher rates with higher GPAs from a wide range of academic fields of study (PNPI, 2018). Additionally, the numbers from these studies indicate that student veterans are becoming a more diverse group that reflect the demographics of America as compared to the demographics of the military (Bialik, 2017; PNPI, 2018). Unfortunately, these numbers do not represent the complexity of the transition from the military to college campuses. To better understand what transitional issues veterans are experiencing, a more thorough and nuanced look at the data is necessary.

**Extent of the Problem**

The transitional problems SVs face can be examined through two lenses: the student veteran and college administrators. First, SVs are a diverse and complex population with needs that differ from traditional students. As mentioned previously, veterans are more likely to be older, be married, and have children. These three differences alone are barriers that SVs must navigate to successfully earn a degree, but they are hardly the only barriers that veterans may bring to campus. Veterans also face academic, financial, psychological, physical, and social barriers that are different than traditional students that could impair their ability to perform to their full potential in their new role as a student (Ackerman et al., 2009; Alschuler & Yarab, 2016; Igielnik, 2019).

Academically, SVs are likely to have been out of high school for approximately five years prior to beginning secondary education (PNPI, 2018). This separation from formal education could lead to an erosion of skills that may impact their self-esteem and GPA. In
addition, 62% of SVs are first generation students (PNPI, 2018), and 66% of combat veterans are first generation students (Wurster et al., 2013). Durdella and Kim (2012) reported that first generation students are twice as likely to drop out during their first year of college, have weaker academic preparation, and are less engaged in the campus community as compared to non-first-generation college students.

Financially, SVs are often beneficiaries of the G.I. Bill. The G.I. Bill provides funding for students for college and housing for 36 months. Although the funding is beneficial, several problems can arise. First, many SVs are married and may have children. The money provided may not meet the financial demands of a family. Second, G.I. Bill and other funding sources the VA provides require school authorization for disbursement. Thus, the disbursement must be processed through both the college and the VA, which can ultimately delay payments to the veterans. Furthermore, SVs may not understand the system of disbursement, creating additional confusion (Borsari et al., 2018). Third, the G.I. Bill is available for 36 months. Since bachelor’s degrees normally require a minimum of four years, veterans will be required to fund at least one year without assistance. This break in funding, along with the demands of raising a family, can force many student veterans to work part-time jobs or take breaks from school to save money (Alschuler & Yarab, 2016).

Psychologically, nearly half of post 9/11 veterans reported experiencing a traumatic event during their time in service (Igielnik, 2019). Additionally, approximately half of veterans reported having difficulty transitioning to civilian life once leaving the military (Igielnik, 2019). Another study supported Igielnik’s (2019) study, in that half of the 525 SVs surveyed demonstrated symptoms of PTSD (Rudd et al., 2011). PTSD is not the only psychological concern SVs face. Rudd and colleagues (2011) also indicated that one third of SVs surveyed
reported severe anxiety, and nearly one quarter reported severe symptoms of depression.

Roughly 7% of SVs described a past suicide attempt, and 35% experienced suicidal ideations (PNPI, 2018).

Veteran students may have also suffered physical impairments while serving in the military. Veterans of the OEF/OIF conflicts were known to be exposed to toxic chemicals, extreme weather conditions, infectious diseases, loud noises, gunfire, and explosions (VA, 2019). These hazards led to many veterans suffering from a wide range of physical ailments, such as traumatic brain injury (TBI), musculoskeletal injuries, chronic pain, tinnitus, and amputations.

Student veterans report numerous factors that impede their ability to interact on campus beyond possible physical or mental health problems. Due to the increased level of responsibility in their lives during their time in service and the higher probability of being married and having children, many student veterans feel they are in a different stage of development than traditional college students (Borsari et al., 2017). Additionally, veterans on campus report difficult social interactions with non-veteran peers that are marked with apathy or hostility toward conflicts in which veterans were engaged, and inappropriate questions about the veteran’s role in the conflict (i.e., did you kill someone?) (Borsari, et al., 2017). These interactions and perceived differences in maturity are major reasons veterans cite for preferring to associate with other veterans (Ackerman et al., 2009).

Colleges and universities could potentially improve SV retention and graduation rates if programs were implemented to address the problems mentioned previously. However, from the perspective of the administration, addressing SV needs is complicated. Although there is significant data about the veteran population, there is minimal research that focuses specifically
on the needs of SVs. For instance, in 2013, Fain noted that little is known about the academic performance among SVs. Unfortunately, this may still be true. Although it was reported that 53-70% of SVs graduated within six years (Elliot, 2015; Student Veterans of America [SVA], 2017), another study indicated that 15% of full-time students receiving G.I. Bill benefits completed their two-year degree within three years (Marcus, 2017). These discrepancies in the literature could make it difficult for an administrator to properly assess the need for services on their campus or to understand what helps veterans.

The success of veterans on campus relies to a large extent on the services provided on campus. However, little is known about which services are effective in helping the transition process. Suggestions such as campus-based daycares, meeting areas designated for veterans, grant programs, improvement of campus-based health services for veterans, programs that “address the full range of risk factors” for SVs, and academic support can be found in the literature (Ashford, 2018). This list seems like a noble attempt to assist administrators in programming that would help SVs, but the suggestions are vague and have yet to be validated by research.

Further complicating the problem for administrators is the research that suggests programming implemented to help the transition process can be ineffective depending on how a successful intervention is defined. One study reported that SVs rated their academic experience more favorably when numerous transition programs were in place, but the programming did not improve student veteran GPA (Lemos & Lumadue, 2013). This study illustrates that the success of an intervention depends on how outcomes are measured (e.g., GPA). For that reason, administrations must be clear on the outcome the program is meant to improve. Another study reported that even when support services are implemented, they may not be used (Vacchi, 2016).
Specifically, Vacchi (2016) noted that designated veteran meeting areas are utilized at low rates (10-15%), indicating a gap in the literature between what veterans need to improve their chances of a successful transition to college and what is being provided. Vacchi (2016) suggested that an improvement in communication between the SVs and the universities they attend could help close this gap.

In summary, veterans transitioning to college may bring a wide array of concerns (i.e., mental health problems, families, physical concerns) that could impact their ability to perform in the classroom and successfully integrate into the student body. To better assist veterans, many post-secondary institutions have pledged to expand services on campus. However, this process is complicated by a growing demand for mental health services on campus and a possible lack of understanding of what programs are effective in addressing the needs of veterans. Furthermore, at least one author suggested that improving communication with SVs could lead to the implementation of better support systems on college campuses (Vacchi, 2016). The following literature review will further explore the unique challenges veterans bring to campus. To help conceptualize the broad spectrum of possible disruptions veterans may experience, the biopsychosocial model will be introduced.

**Biopsychosocial Model**

The biopsychosocial model was selected as the theoretical framework for this study because of its multifaceted approach. The biopsychosocial model helps us better understand the problems of an individual or group from a holistic perspective that ranges from the cellular level of functioning to a socio-environmental level of functioning. The model was first introduced in 1977 by George Engel to challenge the current medical model of conceptualization and to offer
the patient a greater sense of empowerment (Engel, 1978). The model has been well researched and expanded upon since its inception (Borrell-Carro et al., 2004; Lehman et al., 2017).

The biopsychosocial model posits that the relationship between mental and physical health is complex and must be viewed as an interaction between key components (Borrell-Carrio et al., 2004). For example, a person diagnosed with obesity is at an increased risk for multiple other physical health problems, such as high cholesterol and arthritis. The physical problems this person may experience can lead to a sense of shame and embarrassment that progresses to a depressive disorder. These psychological factors then become an impediment to this person’s ability to interact socially, such as going to work or social gatherings. With such a complex presentation, it may be difficult to determine the best source of intervention. If a provider were to begin by only addressing the diet of the individual to decrease their weight, the psychological factors may interfere with the individual’s motivation to begin the diet. A more effective intervention would be to address the biological (i.e., weight), psychological (i.e., depression), and social (i.e., lack of social engagement) elements of this person’s problem. Figure 1 demonstrates how the three components of the biopsychosocial model overlap.

Similarly, SVs have a constellation of symptoms that are physical, psychological, and social in nature. To develop a more inclusive conceptualization and maximize effectiveness of intervention, the biopsychosocial elements should be considered. The next three sections of this chapter will examine the most researched and prevalent biological, psychological, and social problems veterans bring to campus with the caveat that problems in each category overlap with the other two categories. It is important to remember that although this review will present the most prevalent issues in each category, the list is far from conclusive, and therefore it should not be assumed that creating programs to address these issues would be
an effective strategy to improve the lives of SVs. Gaining SV input remains a critical element in addressing their transitional issues.

Figure 1

*Biopsychosocial Model of Health.*

*Note.* From *Physiopedia*, by Holden (2014)

**Biological Characteristics**

Biological characteristics include physical health, gender, brain chemistry, hormone levels, and genetic vulnerability (Haddad, 2019). A body of research exists that links physical health and disability with emotional well-being and social functioning for those who previously served in the military (Capaldi et al., 2011; Outcalt et al., 2015; Phillips et al., 2016). Literature identifies three common physical ailments that are linked to the mental health of veterans; TBI (U.S. Department of Veterans Affairs [VA], 2019a), pain (National Center for Complementary
and Integrative Health [NCCIH], 2019), and sleep disturbance (Ulmer et al., 2015). Intuitively, each of the three physical ailments can negatively impact veterans’ psychological health, such as thoughts of suicide, PTSD symptoms, and depression (Outcalt et al., 2015). Additionally, research indicates that TBI, PTSD, and depression can impair social functioning (Borsari et al., 2017). The most salient point made when reviewing the physical health and disability literature is that TBI, pain, and sleep disturbance are intertwined with psychological health in veterans (Capaldi et al., 2011; Outcalt et al., 2015). For example, sleep disturbance is a symptom of both PTSD and depression (APA, 2013). Additionally, sleep deprivation can impact quality of life such as mood, memory, and attention (King et al., 2019; National Institute of Neurological Disorders and Stroke [NINDS], 2019; Wright et al., 2011).

The current literature on sleep disturbance, pain, and TBI in the veteran population offers several points that may be overlooked. Therefore, exploring what we know about the intersectionality between the biological, psychological, and sociological constructs on student veterans’ transitional needs may provide a starting point to better understand what student veterans may request if given the opportunity.

**Sleep Disturbance and the Veteran Population.** Sleep disturbance can present as insomnia, nightmares, and poor sleep quality. In the military environment, sleep quality is often not a high priority. Service members begin undergoing sleep deprivation in basic training with most getting only four to seven hours of sleep per night or less (U.S. Army, n.d.). Disturbed sleep patterns are also present through training missions and especially during combat operations (Breus, 2013). In some instances, combat operations require service members to go days without sleeping. When sleep is offered it may be interrupted by mission requirements or hostile gun fire. No research was found that examines the low priority of proper sleep hygiene imposed by
military service on mental health or social functioning. However, previous research found that combat veterans had higher than normal levels of clinical sleep disturbance, even when there was no evidence of clinical diagnoses such as PTSD, depression, or TBI (Capaldi et al., 2011). This is an important finding for therapists to consider. It is likely that combat veterans on campus have sleep disturbances, even with the absence of mental health diagnoses.

Since sleep disturbance is a symptom of PTSD and depression, it is likely that sleep concerns are higher in student veterans who have a mental health diagnosis. One study reported that 80% of veteran respondents who received behavioral health care at the VA listed “difficulty with sleep” as a primary concern (King et al., 2019). Due to the pervasiveness of sleep problems among the veteran population, it is important to understand how a lack of sleep may affect student veterans and how intervention could be helpful.

Veteran suicide prevention is currently one of the VA’s top clinical priorities (VA, 2019c). Evidence suggests that sleep problems elevate the risk for suicide (Bernert & Joiner, 2007). After reviewing the records of veterans who committed suicide, those who suffered from insomnia completed suicide more quickly than those who did not suffer from insomnia (Pigeon et al., 2012). This information is consistent with Bernert and Joiner’s (2007) findings and should alert health professionals in college counseling centers that a student veteran’s risk of suicide is elevated if they report symptoms of insomnia or other forms of sleep disturbance.

Research about how sleep problems affect veterans extends beyond suicide. Disturbed sleep also plays a role with both depression and PTSD (Capaldi et al., 2011). However, the developmental timeline of symptoms is not fully understood. Since the DSM 5 lists sleep disturbance as a symptom of PTSD and depression (APA, 2013), one may conclude that sleep disturbance arises from these disorders. However, it is possible that sleep disturbance may
precede the development of PTSD and depression. A study concluded that complaints of insomnia by veterans four months after deployment significantly increased the chance of PTSD and depression symptoms worsening (Wright et al., 2011). Interestingly, depression and PTSD symptoms did not predict a worsening of insomnia (Wright et al., 2011). This is an important finding for counseling psychologists. There is a chance that an effective sleep intervention could improve mental health symptoms or at least prevent the symptoms from worsening.

As noted, sleep disturbance is not only a feature of the mental health problems veterans face, it also could be the source of mental health problems. Lack of sleep will worsen existing conditions and can make a successful transition to college challenging. Treating sleep disturbances could help alleviate some of the worst mental health symptoms and could potentially lead to greater probability of academic success. Unfortunately, sleep disturbance is only one of several physical health problems that contribute to the decline in mental health among veterans. Physical pain caused by injury during service can also negatively affect mental health. The following section offers a general overview of how pain affects student veterans and provides therapeutic techniques clinicians can adopt to help their clients manage their pain.

**Pain and the Veteran Population.** Pain is usually classified as *acute* or *chronic*. Acute pain generally lasts less than three months and is the body’s response to an injury (Epping-Joran et al., 1998). Chronic pain, on the other hand, may not have a known cause, persists longer than the expected healing time, is treatment resistant, and becomes classified as a condition (Murphy et al., 2014). Pain is a common complaint among OEF/OIF veterans. One study reported as high as 87% of respondents experiencing pain in the last week, with 56% reporting moderate to severe pain (Phillips et al., 2016).
Suffering from chronic pain has lasting effects on a person’s quality of life. Additionally, chronic pain has high comorbidity with psychological symptoms (Dvorak et al., 1998). Eighty percent of participants in the Phillips et al. (2016) study met criteria for other comorbid conditions, including PTSD, anxiety or mood disorders, substance abuse, or psychosis. In fact, PTSD rarely occurred without the presence of pain (Phillips et al., 2016). This information is profound because PTSD along with pain resulted in significant declines in social functioning, general health, and vitality (Outcalt et al., 2015). Similar results were found when pain was comorbid with depression. Global effects of pain along with either comorbid depression or PTSD resulted in a 50% increase in disability days taken (Outcalt et al., 2015).

There were no studies found directly relating to the effects of pain on college performance, but the constellation of symptoms described above paints a bleak picture. First, the effects of pain are often comorbid with the most prevalent mental health problems veterans face. Both depression and PTSD negatively impact learning (Bryan et al., 2014; Burriss et al., 2008; Geuze et al., 2009; Scheiner et al., 2014). Second, the combined symptoms were shown to affect general health, social functioning, and time off (Outcalt et al., 2015). This suggests that student veterans suffering from pain may spend less time with peers and less time in the classroom. Again, it is easy to deduce a reduction in social functioning would negatively impact the student veteran’s college experience, their grades, and ultimately their mental health.

The prevalence of pain within the veteran population suggests that many student veterans deal with some level of pain. If given the opportunity, student veterans may ask for services that can help with pain management to help improve their quality of life and performance in school. Like sleep and pain, TBI is pervasive among veterans and negatively affects their mental health.
The following section will offer a brief discussion on TBI and how it can affect student veteran performance in the classroom.

**TBI and the Veteran Population.** Traumatic Brain Injury (TBI) has been referred to as the “silent epidemic” among OEF/OIF veterans because of the disabling potential of the injury and the likelihood that the injury will be unreported (Hampton, 2011, p. 477; Kennedy et al., 2019). The largest contributing factor for TBIs among OEF/OIF veterans is exposure to blasts caused by roadside bombs and other munitions. The exposure to the blast can have serious outcomes, such as displacement, stretching, and shearing of tissue within the body (Hampton, 2011). It is believed that exposure to the primary blast can cause brain damage directly through the displacement of the brain, or indirectly by going through the torso and impacting other parts of the central nervous system (Hampton, 2011).

TBIs are generally classified into three categories: mild, moderate, and severe (Friedland & Hutchinson, 2013). The severity of the TBI is often determined using multiple criteria, such as loss of consciousness at the time of injury, post-traumatic amnesia, skull fracture, and evidence of brain injury through imaging (Friedland & Hutchinson, 2013). Mild TBI is the most common form and symptoms include a wide range of physical, sensory, and cognitive impairments. Of those impairments, the ones most critical to student veterans may be a marked decline in concentration, mental processing, or executive functioning (Luskin, 2015). Sufferers may also experience mood changes, such as symptoms of depression and anxiety (Luskin, 2015).

It is estimated that nearly 400,000 service members meet the criteria for TBI (Kennedy et al., 2019). Of those, approximately 75-90% fall within the range of mild TBI (Kennedy et al., 2019). Both numbers may not capture the true scope of the problem since many mild TBIs are often not reported (Hampton, 2011; Kennedy et al., 2019). Disturbingly, TBI increases rates of
PTSD by 300%, depression, sleep disturbance, and pain by 140%, and can also increase suicidal ideation (Gradus et al., 2015; Kennedy et al., 2019). Therefore, it is likely that TBI will be comorbid with one or more of the problems affecting student veterans previously discussed in this review.

It is believed that 20% of student veterans have symptoms of PTSD and TBI (Luskin, 2015). Twenty percent of student veterans can be an intimidating number for larger campuses. Additionally, the methods of treating TBI are often out of the scope of training for psychologists and will instead require physical and occupational therapy and psychiatry to help alleviate symptoms (U.S. Department of Veterans Affairs, 2019 a). Fortunately for psychologists, there are ways to help student veterans with TBI.

Literature suggests a relationship between prolonged distress from TBI and psychiatric symptoms caused by PTSD (Drag et al., 2012). Drag and colleagues (2012) suggested that TBI distress can be alleviated by treating PTSD. Therefore, it is logical to believe that psychologists on college campuses can intervene with effective PTSD treatments. Research using Cognitive Processing Therapy (CPT) and Prolonged Exposure (PE) indicated that both are tolerated and reduce symptoms for individuals with comorbid PTSD and TBI (Chard et al., 2011; Davis et al., 2013; Ragsdale & Voss Horrell, 2016). This knowledge allows clinicians on campus the ability to be trained in and implement cognitive strategies that will help reduce the distress caused by comorbid PTSD and TBI.

Overall, TBI prevalence on campus is unknown, but for those who have suffered from a TBI, comorbidity rates of other physical and psychological problems are high. The presence of TBI could impact student veterans’ ability to thrive in an educational setting. Evidence indicates
that training in either CPT or PE will help psychologists on campus intervene in a meaningful way (Chard et al., 2011; Davis et al., 2013; Ragsdale & Voss Horrell, 2016).

In summary, the biological component of the biopsychosocial model highlights the importance of holistic conceptualization of student veteran problems. Physical problems such as TBI, chronic pain, and chronic sleep disturbance may have biological underpinnings that worsen the veteran’s mental health and social functioning. Fortunately, there are training options available for college counseling professionals that may successfully alleviate symptoms of TBI, chronic pain, and chronic sleep disturbance whilst also improving symptoms of PTSD and depression.

The biological component of veterans’ problems has a robust data set. Unfortunately, few available studies specifically reference student veterans. Additionally, physical health is only one component of the model and cannot be viewed independently of the other two. The next section will focus on the most common psychological characteristics veterans face.

**Psychological Characteristics**

Suicide is the most serious and possibly the most publicized psychological issue facing veterans. However, suicide reporting can be vague and inaccurate. There has been a recent drive to increase the marketing, media reports, and political messaging to spread the statistic that 22 veterans kill themselves every day (Bare, 2015). If 22 veterans commit suicide every day that would mean roughly 8,030 veterans die per year by suicide. However, there are discrepancies in the data on veteran suicide. In a more recent report by the U.S. Department of Veterans Affairs, they note that more than 6,000 veterans committed suicide each year from 2008-2016 (Department of Veteran Affairs, Veterans Health Administration, Office of Mental Health and Suicide Prevention [VA], 2016). That would place the suicide rate at approximately 16 veterans
a day, which is roughly six less veterans per day compared to Bare’s (2015) report. These discrepancies in the number of veteran suicides may make it difficult to know if current interventions are helping to curb the epidemic.

Trends have begun to emerge in the literature as the data concerning veteran suicide is analyzed further. From 2005 to 2016, suicide rates increased in both veteran and non-veteran adults. However, suicide rates have decreased considerably among the overall adult population between the years 2015-2016. This decrease in suicide rates is not reflective of the 18-34-year-old veteran demographic. Instead, suicide rates within the younger veteran population have increased from 40.4 suicides per 100,000 to 45 per 100,000. This trend is alarming and demonstrates the psychological distress among many veterans of the OEF/OIF conflict. Part of the rise in suicides among younger veterans may be explained by the sharp increase in suicides among women. Women veterans were nearly two times as likely to complete suicide as their male counterparts (VA, 2018) and two and half times more likely than civilian females to complete suicide (VA, 2016). These numbers suggest that veterans on campus could be at an increased risk for suicide compared to their civilian peers due to a majority of veteran students being OEF/OIF era veterans (24-40) (PNPI, 2018), a higher female veteran student population (PNPI, 2018), and a possible increase in stress from the school environment.

Three studies were found that specifically address suicide among student veterans. The results of the studies are mixed, and none explored the completed suicide rates. Rather, these studies focused primarily on suicidal ideations, suicide attempts, and self-harm. Rudd, Goulding, and Bryan (2011) stated that the results of their extensive study of 628 student veterans indicated that 46% of student veterans had thoughts of suicide, 20% had a plan to commit suicide, 7.7% made a suicide attempt, and 3.8% felt that suicide was likely or very likely. Rudd and colleagues
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(2011) concluded, “these numbers are alarming, not only in comparison to the modal college or university student, but also in contrast to VA clinical populations” (p. 358).

Indeed, these numbers are disturbing, but additional studies make it unclear how suicidality differs among the student veteran population and traditional college students. One study reported that student veterans were at a higher risk for self-harm compared to non-veteran peers but identified no significant difference between student veterans and their non-veteran peers in suicidal ideations or suicide attempts (Blosnich et al., 2014). A second study also concluded that student veterans had a lower risk for suicidal ideations or behaviors, except for Native American student veterans, who had higher rates of ideations and behaviors (Bryan & Bryan, 2015). This is an interesting finding that identifies subgroups within the student veteran population that may have unique multicultural struggles.

Although the prevalence of suicidal ideations and attempts may or may not differ among student veterans and traditional college students, previous literature suggests that the underlying causes for these behaviors can impact the severity of ideations and attempts. Nauert (2018) listed stress, sexual minority status, and mental health diagnoses as the major risk factors for traditional college students. Therefore, it is possible that these factors, combined with combat exposure, military culture, loss of support, age, preparedness for college, and physical injuries may require a unique intervention tailored to the student veteran population.

Overall, accurate suicide rates among veterans are difficult to obtain. Historically, accurate records were not kept, and recent data varies. Furthermore, studies use different constructs, such as suicidal ideations or self-harm, which helps understand different phenomena but muddies the effort to gain a clear picture of suicide among veterans. It is critical that future studies begin to operationalize these constructs to gain a clear picture of suicide trends in
veterans. Once this is present, a clearer picture of student veteran suicidal ideation and self-harm can be compared to a normed population and compared to the traditional student population. These numbers portray the need for vigilance and suggest that student veterans need specific programs focused on identifying the unique stressors they may be experiencing compared to traditional students.

**PTSD and the Veteran Population.** Post-traumatic stress disorder (PTSD) may be the mental health disorder that is the most emblematic of veterans. Portrayals of the disorder are offered in movies, television shows, and books. However, some of these depictions are inaccurate and can represent veterans in a negative manner. For many, fictional characters are the only experience they have with the disorder. This lack of knowledge may lead to the belief that veterans are hostile, aggressive, and unstable. Inevitably, this belief would lead to an avoidance among civilian peers making it more difficult for veterans to find friends on campus and engage in typical college activities. This cyclical pattern will be further discussed in subsequent sections (see Depression and the Veteran Population and Social Characteristics). However, it is important to first discuss the primary symptoms of the disorder and the prevalence on college campuses.

The hallmark features of PTSD are: 1) intrusive thoughts, 2) avoidance, 3) negative alterations in mood and cognition, and 4) heightened arousal levels (American Psychiatric Association [APA], 2013). The symptoms must be present for more than 30 days and they must cause significant distress or impairment in functioning. Veterans must meet these criteria and have sought psychiatric services to have a diagnosis of PTSD. However, literature sometimes utilizes the term post-traumatic stress (PTS) instead of PTSD. PTS indicates that either the
veteran did not meet all the criteria for a diagnosis, or they have not sought services to receive a formal diagnosis but demonstrated symptoms of PTSD during the study conducted.

Trying to get accurate estimates on the prevalence of PTSD among veterans is difficult. The VA (2018) suggested that prevalence rates among OEF/OIF veterans range between 11% and 20%. However, this may not be an accurate account of how pervasive this disorder is among veterans. Estimates from other studies range from 9% of respondents screening positive for PTSD (Kolkow et al., 2007) to 45% (Helmer et al., 2007). This variance can be attributed to a wide range of problems, including limitations in sampling procedures, differences in the measures used, time after service the individual was tested, and criterion used to assess PTSD symptoms. For example, some studies (Helmer et al., 2007; Kolkow et al., 2007) used a diagnosis of PTSD as their criterion, while others (Heimlich, 2011) used a more inclusive method that required participants to merely report symptoms related to trauma exposure, often referring to this as posttraumatic stress (PTS).

Shifting the criteria to PTS does not help in identifying prevalence. Nearly 40% of post-9/11 veterans believed they had PTS symptoms. Expectedly this number was higher (49%) among veterans who experienced combat (Heimlich, 2011). What may be surprising is that three out of four combat veterans report reliving flashbacks or nightmares, even if they do not believe they meet the criteria for PTS or PTSD (Heimlich, 2011). This last detail illustrates the complexity of trauma symptoms and the difficulties in rendering a clear diagnosis.

On campus, the number of veterans with PTSD is also unknown. Studies indicating the number of veterans meeting the criteria for PTSD range from 25% (Campbell & Riggs, 2015) to 48% (Bryan et al., 2014). These numbers are significantly higher than the 11% to 20% reported for the general veteran population (VA, 2018) and more closely align with the 45% reported by
Hemler and colleagues (2007). One study estimated that between 47,768 and 238,841 student veterans may have PTSD using high and low estimates of 5% and 25% (Lopez et al., 2015). These studies suggest that between one quarter to one half of veterans on campus could meet the criteria for PTSD. However, to further complicate the limitation in student veteran PTSD literature, the studies mentioned above do not include PTS, making it difficult to compare and contrast with the more general veteran population. Regardless of the exact number, a significant number of veterans on campus may have trauma-induced symptoms that could affect their lives. Given this assumption it is critical to review how PTSD is affecting student veterans’ ability to perform in a college setting.

Student veterans with PTS identified sleep difficulties, stress, depression, and financial concerns as the largest barriers to academic success (O’Connor et al., 2018). It is easy to understand how any of these problems could affect a person’s ability to function at optimal levels within college classrooms. Several of these topics are examined in further detail in additional sections of the literature review (see *Sleep Disturbance and the Veteran Population* and *Depression and the Veteran Population*). However, it is important to note that they compound the existing mental health problems of student veterans with PTS(D), diminishing their ability to perform in an academic environment.

Veterans with PTSD have lower-self efficacy for learning and lower levels of effort than veterans without PTSD (Ness et al., 2015). This decrease in learning self-efficacy could be the result of underlying problems with learning and memory caused by PTSD. Veterans with PTSD demonstrated numerous deficits in memory and learning compared to those without PTSD, despite having similar IQ scores (Geuze et al., 2009). If memory and learning are affected by
PTSD, a veteran’s self-efficacy could quickly diminish as they struggle with tasks that other students seem to be accomplishing.

Effort is affected by the impact on memory and learning, but there could be an additional factor involved. Veterans with PTSD demonstrated greater punishment-based learning than non-PTSD veterans (Sawyer et al., 2016). This data could be inappropriately interpreted to mean that veterans with PTSD would perform well in a punishment-based learning environment. The authors instead hypothesized that the greater sensitivity to punishment may encourage avoidance (one of the key tenets of PTSD) to cues unrelated to their trauma (Sawyer et al., 2016). The high stakes grading scales normally utilized in college settings can feel like a punishment-based learning system. Therefore, veterans with PTSD may choose to avoid assignments, the classroom, or remove themselves from college entirely to distance themselves from negative stimuli.

Though the exact numbers are uncertain, the data makes clear that there has been an influx of student veterans with PTSD on college campuses (Lopez et al., 2015). These veterans suffer from a wide range of symptoms that likely affect their ability to thrive in college.

**Depression and the Veteran Population.** Depression is typified by the presence of five or more of the following: 1) depressed mood, 2) loss of interest in previously pleasurable activities, 3) weight loss or gain, 4) insomnia or hypersomnia, 5) psychomotor agitation or retardation, 6) fatigue, 7) feelings of worthlessness, 8) inability to concentrate, and 9) recurrent thoughts of death (APA, 2013). As with PTSD, the symptoms listed are not conducive to the learning environment. What is different is that unlike PTSD, depression is a more common occurrence in a college student population.
Depression is one of the leading mental health problems in America. Just over 13% of individuals between the ages 18-25 report having a major depressive episode (National Institute of Mental Health [NIMH], 2019). Additionally, college students in the same age range report slightly higher levels of depression (16.7%) (American College Health Association [ACHA], 2017). These numbers indicate the need for college counseling centers, who are well equipped to recognize and treat depression. However, veterans may not utilize or benefit from these services.

Comparable to the literature on the rates of PTSD in the student veteran population, the prevalence of depression in student veterans shares a similar limitation in the literature, in that the rates differ depending on the study’s method and design. There are several reasons for this. One, much of the data is dated. One study estimated that one in three veterans had some symptoms of depression, while one in five had serious symptoms (VA, 2008). Another listed depression rates at 37% for Iraq veterans and 38% for Afghanistan veterans (Lapierre et al., 2007). More recent studies focused on comorbidity with categories such as, “PTSD and depression” (Bryan et al., 2014). This inclusive category is likely in response to the realization that comorbidity among the veteran community is high and it is often difficult to create categories that only include one mental health diagnosis.

For veterans, depression is commonly comorbid with PTSD, TBI, sleep disturbance, or pain (Gradus et al., 2015; Kennedy et al., 2019; Tanielian et al., 2008). For instance, one study reported that 18.5% of veterans returned with either a PTSD or depression diagnosis without a TBI, 19.5% reported a probable TBI, and 7% met criteria for a mental health problem and reported a possible TBI (Tanielian et al., 2008). These numbers indicate how depression affects the veteran population and that the prevalence rates in literature are often blurred due to comorbidity.
The rates of depression on college campuses may be alarmingly high. Estimates range as high as 31% of student veterans suffer from depression (Bryan et al., 2014). Depression has a clear impact on one’s ability to perform academically (Byran et al., 2014). Veterans with depression had a lower grade point average, were more likely to fail exams, were more likely to skip class, and were less likely to turn in assignments than their peers (Bryan et al., 2014). The probability of each of these events occurring were influenced by higher levels of depression (Bryan et al., 2014).

Since depression is often comorbid with PTSD, the combined effects on learning should also be examined. Interestingly, PTSD symptoms alone were not associated with lower grade point averages (Bryan et al., 2014). However, the combination of PTSD with depression exacerbates the memory and learning deficits discussed previously. Specifically, participants with comorbid PTSD and depression produced significantly lower scores in word-list acquisition, word retrieval, and had less efficient learning strategies compared to a normed population (Burriss et al., 2008; Scheiner et al., 2014). Therefore, those who suffer from a comorbid diagnosis are at a greater disadvantage for academic success and offer a more challenging constellation of symptoms than their peers.

**Social Characteristics**

It is important to consider that increasing stress can worsen depressive symptoms, sleep quality, and suicidality (Gianluca et al., 2015; Wallace et al., 2017). For veterans, there are several social components that will likely create stress and degrade student veterans’ ability to perform on campus. First, since student veterans are more likely to live off campus (PNPI, 2018) and have dependents (PNPI, 2018), finances will be a foremost concern during the transition process. Second, since nearly half of student veterans are married (PNPI, 2018), the quality of
intimate partner relationships may impact the quality of life for student veterans. Lastly, the stress caused by veterans’ inability to integrate into the campus community (e.g., make friends) could have an effect on their mental health (Brewin et al., 2000; Ozer et al., 2008), and likely their academic performance (Campbell & Riggs, 2015).

The practical purposes of finding a place to live for veterans is likely not that different than other nontraditional students. Nontraditional students are defined as those who are older than the typical college age (Merriam-Webster, 2019). As previously stated, veterans generally fall outside of the typical college age (PNPI, 2018). Typically, students over the age of 25 decide to forgo the option of residing in dormitories or residence halls with traditionally aged students (Campus Explorer, 2019). This avoidance of campus living among nontraditional students extends to veterans (Rumann & Hamrick, 2010). Living off campus may be more comfortable for student veterans, but additional stressors may accompany this decision.

One potential challenge could be finding affordable housing near campus in an unfamiliar area. This challenge could increase the stress of the transition to college and could lead to the veteran finding housing in an unsafe area of town. Unsafe housing is not an area explored by current literature and therefore is unclear if it is a concern among student veterans.

One of the stressors for veterans in finding a home during college is financial. In a previously mentioned survey, two of the eight identified services veterans requested were related to finances: the ability to meet with certifying officials, and the ability to meet with financial advisors (West Virginia University, 2018). Since housing is one of the largest financial expenditures, it seems reasonable to assume that housing expenses are part of the equation for wanting financial counseling and the ability to meet with certifying officials. Not having
adequate finances could be considered a stressor and could potentially contribute to psychological distress in student veterans.

Under the post 9/11 G.I. Bill, veterans are entitled to a housing allowance that could greatly reduce the financial stress of living off campus (MHA rates, 2019). In theory, this is a great program that could significantly increase the student veteran’s quality of life and their ability to focus on their financial concerns without needing to work another job. However, there have been varying concerns in the past years. There are numerous recent accounts of payments to veterans being delayed (Absher, 2018; Wentling, 2018). These delays impact the veteran’s ability to pay their rent or mortgage on time, and for some, their ability to make payments to their universities for tuition. The literature did not mention the impact that these delays may have on student veterans’ mental health, but as noted before, an increase in stress can lead to an increase in existing mental health conditions in college students (Beiter et al., 2015).

The psychological impact of finding and keeping safe off-campus housing for student veterans is an area of veteran transition that would benefit from further research. It is difficult to predict how important housing may be to veterans in college. To help veterans with this problem, college counseling employees could familiarize themselves, and programs could be developed for college orientation that focus on housing resources in the area and teach budgeting skills if necessary.

Although the research regarding practical concerns of finding adequate housing among veterans is sparse, the literature concerning intimate relationship disturbance is more robust. The research suggests that intimate partner problems impact both the safety and stability of the home (Vogt et al., 2017) and may be an area where psychologists in college counseling centers can intervene. Vogt and colleagues (2017) reported that almost half of veterans report some level of
The impact that PTSD and depression have on relationships among veterans is distressing. However, literature directly examining the impacts of PTSD and depression on intimate relationships among student veterans was not found. The sparsity of literature on this topic makes predicting student veteran needs difficult. However, knowing that 20% of student veterans have PTSD and depression makes it likely that some student veterans experience intimate partner relational impairment. Literature measuring the impact of intimate partner impairment on student veterans’ ability to successfully navigate the demands of college was also not found after conducting a review of the literature.

Fortunately, increasing marital satisfaction has preservative effects on veterans’ mental health status (Ponder et al., 2012). This knowledge could give mental health professionals and college administrators two avenues for intervention. First, relationship counseling is a possible intervention option that could help both the veteran and their partner improve their psychological health, thus maintaining a more stable and safe home. However, more literature is needed to support this method. Secondly, implementing an evidenced-based treatment, such as emotional-focused therapy for couples, for symptoms of PTSD to help alleviate negative symptoms and improve the intimate partnership (Blow et al., 2015).

Lastly, student veterans’ ability to form and maintain relationships on campus is critical for their success and for their overall health. This need for relationships is reflected in three of
the veterans’ eight needs reported in the West Virginia University ([WVU], 2018) survey. These three needs include (1) having the opportunity to speak with veterans, (2) having a place where veterans can decompress, and (3) having a comfortable place to gather between classes.

To further understand the need for a strong support system in veterans transitioning to college, it is useful to explore what previous literature has reported. Many veterans describe the people they served with as being part of their chosen family, and that the military provided care and structure for them (Ahern et al., 2015). This environment is much different than the civilian world, and the transition may leave veterans feeling unsupported, disconnected, and without a sense of structure to rely on (Ahern et al., 2015).

Student veterans acknowledge that they have difficulty connecting with civilians and their college peers (Ackerman et al., 2009). Several factors may intensify feelings of disconnection and lack of support once veterans arrive on campus. First, only 15% of student veterans are considered traditionally aged (18-23) (National Center for PTSD, 2014), while 42% of student veterans are 30 years old or older (SVA, 2017). This age difference separates student veterans from traditional students in maturity and possible interests, making it difficult for student veterans to connect to campus culture (Norman et al., 2015). A second factor that intensifies feelings of being disconnected and unsupported according to student veterans is campus climate. In one study, most veterans expressed that college campuses felt liberal and anti-military (Osborne, 2014). Furthermore, they felt as though veterans were viewed as “crazy or violent” when the military was discussed in class (Osborne, 2014, p. 253). Unfortunately, this perception left student veterans with the belief that disclosing their veteran status would leave them “vulnerable to inaccurate assumptions about their mental health and overall wellbeing” by both faculty and students (Osborne, 2014, p. 254). These transitional concerns could make it very
difficult for veterans to feel as though they are part of a supportive community, which is vastly different than the military community that many described as family.

Serious issues may arise if student veterans fail to form relationships on campus. Unlike other social problems discussed in this section, research suggests that a lack of support within the veteran’s community will adversely affect their mental health, and conversely, social support can improve psychological symptoms (Brewin et al., 2000; Ozer et al., 2008; Piertzak et al., 2009; Wilcox, 2010). Much of the literature focuses on the role of social support and its impacts on the development of PTSD. Two studies indicated that higher levels of social support among veterans after deployment reduced PTSD symptoms (Piertzak et al., 2009; Wilcox, 2010). Additionally, two meta-analyses determined that reduced social support was the strongest predictor of PTSD after a trauma (Brewin et al., 2000; Ozer et al., 2008). Social support also helps to reduce stress (Cohen & Wills, 1985) and improves symptoms of depression (Piertzak et al., 2009). Not surprisingly, the benefits of social support extend to the college classroom as research indicates that social support has a positive effect on academic adjustment (Campbell & Riggs, 2015).

**Summary**

In summary, research identifies unique differences and problems veterans may experience that can impact their ability to function on campus (Ackerman et al., 2009; Alschuler & Yarab, 2016; Igielnik, 2019). Veterans tend to be older, are more likely to have a family, and live off campus than their civilian peers (PNPI, 2018; Wurster et al., 2013). They have higher rates of PTSD, depression, and suicide (Bryan et al, 2014; Lapierre et al., 2007; PNPI, 2018; VA, 2018), are more likely to have physical ailments such as chronic pain, TBI, and sleep disturbance (NCCIH, 2019; Ulmer et al., 2015; VA, 2019a), and struggle to form and maintain relationships on campus (Vogt et al., 2017).
Unfortunately, these problems do not exist in a vacuum. Problems are often comorbid and are linked to create a deleterious cycle. For instance, a diagnosis of PTSD or major depressive disorder can impair a veteran’s ability to form relationships (Meis et al., 2017; Voigt et al., 2017), while a lack of social support can adversely affect veteran’s mental health (Brewin et al., 2000; Ozer et al., 2008). Due to the complex relationship between mental and physical health it is believed that the biopsychosocial model offers a more holistic view of the problems veterans may bring to campus.

The purpose of this study is to address deficits in the literature by asking SVs what they believe colleges and universities can do to help address their physical, psychological, and social needs to ensure a successful transition to the college setting. Furthermore, through concept mapping the ideas that are generated by SVs will be sorted and ranked into categories that provide administrators with a roadmap to assisting student veterans. The data from the current study could help better address the needs of veterans, which could ultimately increase their satisfaction with their overall college experience. It is hopeful that this study will lead to increased retention and graduation rates for SVs transitioning to college.
Chapter 3: Methods

Research Question

The purpose of this study was to better understand the biopsychosocial support that student veterans reportedly need to successfully transition from the military to college. The aim of the study was to help identify variables that could help post-secondary education settings increase retention rates, whilst lessening the economic burden from money lost in tuition and/or failed programming through the implementation of needed resources described by their student veterans. From this purpose, the following research question was addressed:

What do SVs believe colleges and universities can do to help ensure a successful transition from the military to the campus setting?

Design

This mixed method, exploratory study was conducted utilizing concept mapping (Heppner et al., 2016). Concept mapping was selected because it provided participants (i.e., student veterans) the opportunity to be involved in the collection and the interpretation of the data (Kane & Trochim, 2007). Concept mapping was broken into two distinct phases: (1) a qualitative brainstorming session, and (2) a quantitative questionnaire structuring component. During the brainstorming session, a small group of 10 student veterans were asked the following question: “What do you believe colleges and universities can do to help address your psychological (e.g., anxiety, PTSD, depression), interpersonal (e.g., family concerns, fitting in on campus), and physical (e.g., physical disability, sleep disturbance) needs to ensure a successful transition from the military to the campus setting?” and encouraged to provide feedback on the question posed (Kane & Trochim, 2007). The ideas collected from the student veterans were structured into a questionnaire format. The development of the questionnaire was followed by
the quantitative process of ranking and sorting. These processes are further explained in the subsequent sections of this chapter.

**Demographics**

As mentioned previously, SVs are a diverse group and many demographic variables could be considered when conducting research. However, it is important to note that the Global Max software used in this study limited the number of demographic variables to four. Therefore, numerous important demographics were not included in this study (e.g., sex, LGBTQAI status, first generation student). It was decided that age, type of institution attended, ethnicity, and disability status would be included in this study for the following reasons.

Age was selected because research indicated that age is one of the defining differences between SVs and traditional college students (PNPI, 2018; Wurster et al., 2013). However, research also indicated that SVs’ age generally ranges between 24-40 years old (Wurster et al., 2013). This age range is considerable, and it is possible SVs of different generations may identify different transitional needs.

Type of post-secondary institution was selected because research indicated that SVs are graduating at different rates, specifically those who attended a two-year college were graduating at a significantly lower rate than those who attended a four-year college (Elliot, 2015; Marcus, 2017; Student Veterans of America [SVA]. 2017). However, these studies did not identify the differences in transitional needs for the samples taken. It was believed that exploring this demographic could illuminate some differences in what services SVs who attended four-year universities believed to be important to ensure their successful transition, and what services SVs who attended a two-year college identified to transition successfully. If differing needs were
identified this could help administrators better plan for the successful transition of SVs across campuses, and possibly improve the graduation rates at two-year institutions.

Ethnicity was selected because research indicated that the SV population continues to grow in ethnic diversity (Bialik, 2017; PNPI, 2018). Unfortunately, very few studies were found by this researcher that discussed the challenges that SVs of ethnic minority status may face when transitioning to campus. Therefore, it was deemed necessary to attempt to determine if SVs of ethnic minority status differed in their transitional needs.

Lastly, disability status was selected due to the wide range of physical and psychological problems literature has identified in the veteran population. Since many of these possible disabilities are termed invisible, or not easily recognized by looking at a veteran, simple surveys that do not specifically ask about disabilities may miss key information regarding disability status. Additionally, research indicated that psychological and physical injuries may impair SVs’ ability to perform in the classroom (Burriss et al., 2008; Campbell et al., 2009; Geuze et al., 2009; Scheiner et al., 2014). Therefore, it seemed logical to assume that SVs who have a disability may require different services to transition successfully to campus than SVs who do not.

**Brainstorming**

Trochim and McLinden (2017) stated that concept mapping “doesn’t care how one generates the statements for a mapping project as long as they represent adequately and as completely as possible all of the key facets of the conceptual domain” (p. 168). Due to the recent restrictions for data collection imposed by the COVID-19 pandemic, the brainstorming session was conducted utilizing a convenience sampling procedure, in which the participants were recruited through a social media platform (i.e., Facebook). The initial brainstorming session was
conducted by having 10 members respond individually to a focus statement prompt. The focus statement prompt was: “What do you believe colleges and universities can do to help address your psychological (e.g., anxiety, PTSD, depression), interpersonal (e.g., family concerns, fitting in on campus), and physical (e.g., physical disability, sleep disturbance) needs to ensure a successful transition from the military to the campus setting?”

This wording was chosen to avoid restriction of the scope of the participants’ responses, and to make it inclusive to any veteran subgroup that may be in attendance. The online brainstorming session was not timed, and participants were encouraged to end the session once they believed they had completed the task.

Kane and Trochim’s (2007) six essential rules for a brainstorming session were utilized in this study. These rules are:

1. Everyone is encouraged to share as many statements as they can.
2. Participants are encouraged to refrain from discussing or criticizing statements so that everyone can feel welcome to share their thoughts.
3. Only one person should comment at a time.
4. Each member has something useful to share.
5. If a participant does not feel comfortable sharing their ideas in a group format, they may submit their ideas anonymously at the end of the session.
6. There are no right or wrong suggestions.

Due to the online format of the brainstorming session, each participant was asked to generate statements via a link provided to the Global Max software. Because statements were not generated in a group format, many of these rules were irrelevant. However, participants were still
encouraged to follow rules one, four, and six: they should share as many statements as possible; they have something useful to share, and there are no right or wrong suggestions.

**Statement Reduction**

After the brainstorming session was completed, a reduction of the generated statements was conducted by the researcher (Kane & Trochim, 2007). To do so, items that were identical, redundant, or deemed to be the same concept as other statements were combined. Comments that did not relate to the prompt were eliminated. After this first process of combining and eliminating concepts was completed, each statement was modified to correct any syntax errors and/or spelling errors. This process was completed with the intention to keep the statements as close to their original meaning as possible.

Upon completion of this process, the revised statements were formatted into a questionnaire on the Global Max concept mapping software to begin the second phase of the project. After uploading the statements, collaboration with the social media site administrators on the distribution of the study’s link began. The social media site link was provided for participants to conduct the structuring portion of the study.

**Structuring**

The structuring component of concept mapping was similar to the data collection element of other research methodologies. Both the sorting and rating components allowed the researcher to “ensure that the analyst fully understands the map and the relationship of the information within it to the issue at hand” (Trochim & McLinden, 2017, p. 89). Both the sorting and rating data were represented by a series of diagrams, referred to as maps, that help to explain shared relationships between the data.
During the structuring phase of this study, demographic variables (i.e., sex, university, ethnic minority status, and physical disability status) were collected, and the sorting and ranking of the data occurred (Trochim & McLinden, 2017). Student veterans who decided to participate were able to access a link on the social media site to the questionnaire on the Global Max software and asked to participate in both the sorting and ranking components of the study. However, the sorting and ranking of the data were collected through separate links, so the participants were informed they could complete them separately if time was an issue. Additionally, if a participant only completed one of the two structuring components (i.e., sorting and ranking), their data was still analyzed, with the numbers of each task reported in the final results.

**Sorting**

To begin the sorting process, participants were asked to use the link on the website labeled “sorting.” Once they accessed the link, participants were asked to follow these rules to complete the task:

1. Group the statements into themes or into similar meanings (e.g., counseling, education, social events).
2. Give each pile a name.
3. Do not create piles according to priority, or value, such as “important,” or “hard to do.”
4. Do not create piles such as “miscellaneous,” or “other.”
5. Make sure every statement is put somewhere.
6. Do not leave any statements in the “Unsorted Statements” column.
7. Creating between five and 20 piles works well to organize this number of statements.
Participants were asked to create names for each pile. After piles were created, the participant was able to click and drag statements from their unsorted pile on the left of the screen into the piles they created. Each time a statement was placed into a created pile, it was then removed from the unsorted pile, preventing that statement from being placed in more than one pile. Participants were given the option to rename the piles they created, or to move statements between the piles at any point. When all statements were removed from the unsorted pile, the participants were prompted to choose the “finished” tab which completed the sorting task (Concept Systems website, 2018).

**Rating**

Similar to the sorting task, the rating task also had a link that participants were asked to follow to begin rating all the items generated during the brainstorming task. The participants were directed to rate each statement on a Likert-type scale for its importance to them, where 1 = *relatively unimportant* (compared with the rest of the statements), 2 = *somewhat important*, 3 = *moderately important*, 4 = *very important*, and 5 = *extremely important* (Trochim & McLinden, 2017, p. 167)

Each time a participant rated an item, it automatically disappeared, leaving only the unanswered items. However, if a participant chose to go back to change an answer, then there was an option for them to do so. Once the task was completed, an option to “finished” became available for the participant to click. When this tab was clicked, a message thanking the participant for completing the study appeared.

**Data Analysis**

To interpret the data from the sorting and rating tasks, the Global Max software performed three analyses that were presented in concept map form. The first analysis was a
similarity matrix. The similarity matrix created a map that shows the number of participants that sorted each statement similarly. Next, a point map was created using Multidimensional Scaling. The point map made a visual representation of each statement and how often they are clustered together during the sorting phase; more similar statements were in closer proximity to each other. Lastly, a hierarchical cluster analysis was performed. This analysis created a separate map (Point Cluster Map) that grouped similar statements made by participants into groups differentiated by a contrasting color overlay. It is recommended (Trochim & McLinden, 2017) that a small group of participants be brought together to view the Point Cluster Map and name each cluster for the final presentation of data. However, due to the current study’s convenience sampling recruitment style and the use of social media dictated by the current Covid-19 restrictions, this recommendation was not possible.

The Global Max software also produced maps that represented the ratings given to each statement, as well as a three-dimensional overlay that gave a visual representation of how important each cluster is to the participants. Additionally, the Global Max software incorporated the four demographics described on their demographic questionnaire (i.e., sex, university, ethnic minority status, and physical disability status). Mapping each of the demographics may provide additional data to the preferences for college programs of varying subgroups within the veteran population.

**Participants**

Individuals over the age of 18 who served in an active or reserve capacity in one of the major branches of service (U.S. Army, Navy, Air Force, Marines, or National Guard) were eligible to participate in this study. In addition, participants were screened for student status. Student status included any person who is currently attending or has attended a form of post-
secondary educational institution after leaving the military. Examples of post-secondary education include a four-year college or university, a two-year community or junior college, or a vocational school.

The Global Max software was able to accommodate 100 participants. However, after three weeks of recruitment, 85 participants took part in the study. Data were collected from a total of 85 participants during the three phases of the study. Of the 85 participants, 63 completed their portion of the study which was accomplished by clicking on the “finished” button at the end of each task. During the brainstorming portion, 10 people began the task, 3 finished (30%). During the sorting portion, 31 started the task with 16 finishing it (51.6%). Finally, 45 people began the ranking portion, with 44 completing (97.7%). These numbers may be slightly misleading because data is saved as each participant enters information and does not depend on them selecting finish when they complete the task. Regardless, the numbers for the sorting and rating portions of the study fall within the normal range of 52% (sorting) and 68.7% (rating) (Rosas & Kane, 2012). Participants were recruited using shareable posts created on Facebook asking for student veteran participation. One shareable post was introduced on the researcher’s personal account each week for three weeks. Additionally, one shareable post was placed on numerous veteran-specific Facebook sites with the permission of each site’s administrator.

Of the 65 participants that completed the demographic questionnaire, 52 were over the age of 35 (80%), 11 were 29-35 (16.9%), two were 23-28 years old (3%), and 0 were 18-22 years old (0%). Fifty-one participants attended a 4-year college or university (79.6%), 11 attended a community college or two-year institution (17.9%), and two attended a trade or technical school (3.1%). Fifty-three participants identified as Caucasian American or White (82.8%), five identified as biracial (7.8%), two as African American or Black (3.1%), two as American Indian,
Native American or Alaskan Native (3.1%), one as Hispanic or Latino (1.5%), and one as other (1.5%). Lastly, 26 individuals reported having no disabilities (40.6%), 15 reported having both a psychological and physical disability (23.4%), 12 reported having a psychological disability (18.7%), and 11 reported having a physical disability (17.1%). The final sample demographics are summarized in Table 1.

Compensation for participation was provided through the opportunity to enter into a drawing for one $20.00 Amazon gift card during the brainstorming portion of the study and four $20.00 gift cards during the structuring portion. The total monetary cost for this research study was $100.00.
Table 1

Participant Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 35</td>
<td>52</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>29-35</td>
<td>11</td>
<td></td>
<td>16.9</td>
</tr>
<tr>
<td>23-28</td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>18-22</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Post-secondary education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-year college or university</td>
<td>51</td>
<td></td>
<td>79.6</td>
</tr>
<tr>
<td>2-year college or community</td>
<td>11</td>
<td></td>
<td>17.9</td>
</tr>
<tr>
<td>college</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade or Technical School</td>
<td>2</td>
<td></td>
<td>3.1</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
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<tr>
<td>Caucasian or White</td>
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</tr>
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<td>African American or Black</td>
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<td></td>
<td>3.1</td>
</tr>
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<td>Asian American</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
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<td></td>
<td>1.5</td>
</tr>
<tr>
<td>American Indian, Native American, or Alaskan Native</td>
<td>2</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Biracial</td>
<td>5</td>
<td></td>
<td>7.8</td>
</tr>
<tr>
<td>Other</td>
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<td></td>
<td>1.5</td>
</tr>
<tr>
<td>Disability Status</td>
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<td></td>
</tr>
<tr>
<td>Physical</td>
<td>11</td>
<td></td>
<td>17.1</td>
</tr>
<tr>
<td>Psychological</td>
<td>12</td>
<td></td>
<td>18.7</td>
</tr>
<tr>
<td>Both Physical and Psychological</td>
<td>15</td>
<td></td>
<td>23.4</td>
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<tr>
<td>Neither</td>
<td>26</td>
<td></td>
<td>40.6</td>
</tr>
</tbody>
</table>

*Note, n=65*

**Procedure**

This study was first submitted for approval to the West Virginia University Office of Research Integrity and Compliance’s Institutional Review Board (IRB). Following IRB approval, participants were recruited through convenience sampling using social media (i.e.,
Facebook). A shareable post was created using the researcher’s social media Facebook account that included the link to the Global Max software. The social media link directed participants to an outline of the eligibility criteria (i.e., student veteran), the estimated completion time of 15 minutes, and contact information of the researcher. The researcher’s contact information was provided for participants who may have additional questions or if they were interested in receiving the results of the study. The social media posting included a script that contains the aim of the study (see Appendix A).

Participants who followed the link were instructed to read the informed consent document on the opening screen of the Global Max survey prior to beginning the brainstorming portion of the study. The informed consent document detailed the rights of the participants (i.e., right to discontinue at any point, explanation of the potential risks in participating, and the right to confidentiality) (See Appendix A). Clicking on the link to the survey assumed consent.

Once the individuals agreed to participate, they were administered a brief demographic questionnaire (Appendix B), followed by the brainstorming portion of the study. Here, they were prompted with the guiding question, “What do you believe colleges and universities can do to help address your psychological (e.g., anxiety, PTSD, depression), interpersonal (e.g., family concerns, fitting in on campus), and physical (e.g., physical disability, sleep disturbance) needs to ensure a successful transition from the military to the campus setting?”

Once participants believed they had finished with the brainstorming task (i.e., created all possible suggestions for the research question) they were asked to select the finished button to signify completion of the task. At the completion of the survey, participants were thanked for their participation and provided the researcher’s information. After completion of the brainstorming portion, participants were directed to a separate link to collect email addresses for
those interested in the drawing for one $20.00 Amazon gift card. The additional link was created to protect participants’ confidentiality and to help ensure anonymity.

After the brainstorming data was collected and sorted, the ideas generated by the veterans were uploaded onto the project website to facilitate the next two steps in the concept mapping process. Once a new link was created, the same convenience sampling methods listed for the brainstorming component were utilized for the structuring (sorting and ranking) component. Specifically, the researcher created a shareable Facebook post that was disseminated through a personal Facebook account and through student veteran groups on Facebook. The additional steps in the data collection process were also replicated, including providing a link to the structuring portion of the project that first informed participants of their rights and the researcher’s contact information. Again, informed consent was assumed if the participant continued to the structuring component of the study.

For the sorting portion of the project, participants were asked to sort the previously created statements into groups they believed were similar (e.g., two counseling related statements could be grouped together). Participants were also asked to name each group they created (e.g., veteran counseling). Once all statements were sorted into piles and names were given to each pile, participants were asked to select the finished button to signify completion of the task. Once the sorting portion was finished, participants could then choose to continue to the ranking portion of the task or end their participation in the study.

If the participant chose to move to the ranking portion of the study, they were asked to rank each statement on a Likert-type scale from 1 to 5; 1 = relatively unimportant (compared with the rest of the statements), 2 = somewhat important, 3 = moderately important, 4 = very important, and 5 = extremely important (Trochim & McLinden, 2017, p. 167). Once participants
completed this task they were asked to select the *finished* tab to end their participation in the study. Lastly, after the participants completed the either structuring portion of the study, they were directed to a separate link to collect email addresses for those interested in the drawing of four $20.00 Amazon gift cards.

To choose the recipients of the Amazon gift cards for both the brainstorming and structuring portions of the study, one participant email for the brainstorming portion and four participant emails from the structuring portion were selected using a random number generator (Random.org). The participants who chose to provide their email address during each portion were assigned a number. Once the numbers were assigned for each participant, the random number generator was used to identify the winners. The winners were then emailed an electronic link for their gift card. All email addresses collected were kept separately from the materials collected during the study to help protect anonymity and were deleted once the gift cards were awarded.
Chapter 4: Results

Descriptive Statistics of Study Variables

Demographic information from 85 participants was obtained through the use of four questions that were completed prior to the brainstorming, sorting, or rating tasks (see Appendix D). Of the 85 participants, only 63 successfully completed the task they selected. During the brainstorming portion, 10 people began the task and three finished (30%). During the sorting portion, 31 started the task with 16 finishing it (51.6%). Finally, 44 people began the ranking portion, with 43 completing (97.7%). For a visual guide to participation in each phase of the study, please reference Figure 2. These numbers may be slightly misleading because data is saved as each participant enters information and does not depend on them selecting finished when they complete the task. Regardless, the numbers for the sorting and rating portions of the study fall within the normal range of 52% (sorting) and 68.7% (rating) (Rosas & Kane, 2012).

Participants were recruited by purposive and snowball sampling (i.e., sharing social media posts) methods, in which shareable posts were created on Facebook asking for student veteran participation (Trochim, 2020). One shareable post was introduced on the researcher’s personal account each week for three weeks. Additionally, one shareable post was placed on numerous veteran-specific Facebook sites with the permission of each site’s administrator.
Figure 2

Participant Flow Chart

Study
n = 85

- Data was collected from a total of 85 participants

64 participants completed the demographics questionnaire

Brainstorming
n = 10

- All 10 participants data were included
- 3 pressed finish

Structuring
n = 11

- 15 of 32 attempted the task
- 4 were eliminated for failure to follow directions

Ranking
n = 43

- 44 completed task
- 1 eliminated for failure to follow directions

63 participants ended the task by pressing the finished button

- 63 participants ended the task by pressing the finished button
Primary Analysis

Brainstorming

For this portion, all 10 participants’ demographic data was included in this study for two reasons. First, any information added in the brainstorming portion was automatically saved to the list of statements even if the participant did not click the finished tab to officially complete the task. Secondly, the demographic data from those who finished the task could not be separated from other participants. For participant demographics regarding the completion of the brainstorming activity, please reference Table 2. Participants (n=10) were instructed to respond to a focus statement prompt: “What do you believe colleges and universities can do to help address your psychological (e.g., anxiety, PTSD, depression), interpersonal (e.g., family concerns, fitting in on campus), and physical (e.g., physical disability, sleep disturbance) needs to ensure a successful transition from the military to the campus setting?” From this prompt, participants generated a list of 20 statements. However, three statements were altered by the researcher due to thematic similarity. First, the statements “Designated therapist for veteran needs” and “counselors on campus familiar with veteran needs” were combined to read “designated counselors on campus familiar with veteran needs.” Similarly, two statements were generated; “have someone in a first sergeant role in charge of helping veterans process paperwork” and “have someone in a first sergeant role in charge of helping veterans process paperwork because civilians don’t understand how much hand holding veterans need,” with the second being eliminated to reduce redundancy and negative connotation. Lastly, one statement “offer more support for student veterans” was eliminated due to the non-specific nature of the statement. The finalized list of 17 statements generated during the brainstorming session are presented in Table 3.
### Table 2

**Brainstorming Participant Demographics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (Years)</strong></td>
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</tr>
<tr>
<td>Over 35</td>
<td>7</td>
</tr>
<tr>
<td>29-35</td>
<td>3</td>
</tr>
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<td>23-28</td>
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</tr>
<tr>
<td>18-22</td>
<td>0</td>
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<td><strong>Post-secondary education</strong></td>
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<tr>
<td>4-year college or university</td>
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</tr>
<tr>
<td>2-year college or community</td>
<td>1</td>
</tr>
<tr>
<td>college</td>
<td></td>
</tr>
<tr>
<td>Trade or Technical School</td>
<td>0</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Caucasian or White</td>
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</tr>
<tr>
<td>African American or Black</td>
<td>0</td>
</tr>
<tr>
<td>Asian American or Black</td>
<td>0</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>0</td>
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<tr>
<td>American Indian, Native American, or Alaskan Native</td>
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</tr>
<tr>
<td>Biracial</td>
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</tr>
<tr>
<td>Other</td>
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<tr>
<td><strong>Disability Status</strong></td>
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<td>Physical</td>
<td>1</td>
</tr>
<tr>
<td>Psychological</td>
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</tr>
<tr>
<td>Both Physical and Psychological</td>
<td>2</td>
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<tr>
<td>Neither</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note, n=10*
Table 3

Brainstorming statements

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Have someone in a first sergeant type role in charge of helping veterans</td>
</tr>
<tr>
<td></td>
<td>process paperwork</td>
</tr>
<tr>
<td>2</td>
<td>Designated counselors on campus who are familiar with veteran needs</td>
</tr>
<tr>
<td>3</td>
<td>couples counseling</td>
</tr>
<tr>
<td>4</td>
<td>Assistance finding housing near the college/university</td>
</tr>
<tr>
<td>5</td>
<td>Handicap parking spaces designated for veterans</td>
</tr>
<tr>
<td>6</td>
<td>Have events where veterans speak in front of staff and students to help</td>
</tr>
<tr>
<td></td>
<td>them understand us better</td>
</tr>
<tr>
<td>7</td>
<td>Have veteran specific group therapy options</td>
</tr>
<tr>
<td>8</td>
<td>Hold events that encourage veterans and non-veteran students to talk and</td>
</tr>
<tr>
<td></td>
<td>hang out together</td>
</tr>
<tr>
<td>9</td>
<td>Have veteran appreciation events</td>
</tr>
<tr>
<td>10</td>
<td>Have designated areas where veterans can hang out</td>
</tr>
<tr>
<td>11</td>
<td>Help finding part time work</td>
</tr>
<tr>
<td>12</td>
<td>Assistance with finding childcare</td>
</tr>
<tr>
<td>13</td>
<td>Greater Veteran resources such as tutoring and campus events to foster</td>
</tr>
<tr>
<td></td>
<td>connection</td>
</tr>
<tr>
<td>14</td>
<td>Assistance with GI bill and Chapter 31 benefits</td>
</tr>
<tr>
<td>15</td>
<td>Priority registration for Veterans</td>
</tr>
<tr>
<td>16</td>
<td>Courses that help veterans reprogram their mentality to move past military</td>
</tr>
<tr>
<td></td>
<td>logic to civil lifestyle.</td>
</tr>
<tr>
<td>17</td>
<td>Education for professors and instructors on veteran needs</td>
</tr>
</tbody>
</table>

Note, n = 10
Sorting Data

In total, 32 people responded to the demographic questionnaire prior to beginning the sorting portion of the study. Fifteen of the 32 completed the task and four additional participants’ data was not accepted because they failed to follow the directions for the task (i.e., two participants created 17 piles, two participants created one pile), thus leaving 11 viable participants. The demographics for the participants (n = 11) that completed the sorting portion are included in Table 4.

Participants were asked to sort the list of 17 statements into piles that they felt were related and name each pile. After this was done, the data was aggregated into a total similarity matrix. To explain the process of creating a total similarity matrix several figures were included (See Figures 3 and 4). To begin the process of creating a total similarity matrix it is helpful to understand how it is constructed. Figure 3 illustrates a binary symmetric similarity matrix created for one participant who responded to eight statements, and placed items 5 and 8 in the same pile. First, the x and y axis consisted of the number of statements sorted (i.e., 8). The data was then entered using binary code (0 and 1). The one represents greater similarity (i.e., the participant placing statements in the same pile during sorting), a zero represents that they did not. Additionally, each statement was placed in its own pile. For instance, statement four was always placed with statement four. This process created a diagonal across the figure that splits the figure into two symmetric triangles, thus creating a binary symmetric similarity matrix. It is important to remember that for this study the x and y axis consisted of 17 statements.

Next, a cube is created by adding the total number of participants to the process, referred to as a square similarity matrix (See Figure 4). Figure 4 demonstrated this process with five participants. The numbers on the face of the cube now represent how often participants rated
items together and conveyed that the statements were viewed as conceptually similar. In this study the number of participants in the sorting portion was 11. Therefore, scores on the front of the cube could range between 0 and 11 based on how often they were sorted together, and thus how conceptually related participants believed the statements to be.

After a square similarity matrix was created, multidimensional scaling was performed to create a corresponding two-dimensional point map known as a similarity matrix point map (See Figure 5). The similarity matrix point map is a two-dimensional map that attempts to accurately portray the relationship between statements discovered in the square similarity matrix. The similarity point map matrix illustrated how often statements were sorted together by grouping the statements (shown as points in a matrix) in closer proximity to each other. For example, statements one and four (See Table 3) appeared relatively close together (See Figure 4), which represented them being grouped together more frequently, whereas statements three and 13 are far apart, representing the probability that they were not paired together by the participants.

To determine if the similarity matrix point map accurately reflects the data in the square similarity matrix, a stress value is calculated. In general, values for a stress test determine how well this task is accomplished. Stress values range between 0 – 1. Higher stress values represent a greater discrepancy between the square similarity matrix and the similarity matrix point map, lower values suggest a better overall fit. Maps are deemed interpretable between the ranges of .1-.35 (Group Concept Mapping, 2020). A metanalysis found that the average stress level in concept mapping studies range between 0.17 and 0.34 (Rosas & Kane, 2012). The stress level for this point map analysis is 0.21, making it both interpretable and within the average range for concept mapping studies.
Table 4

Sorting Demographic Information

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Age (Years)</td>
<td></td>
</tr>
<tr>
<td>Over 35</td>
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<tr>
<td>29-35</td>
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<td>23-28</td>
<td>0</td>
</tr>
<tr>
<td>18-22</td>
<td>0</td>
</tr>
<tr>
<td>Post-secondary education</td>
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</tr>
<tr>
<td>4-year college or university</td>
<td>10</td>
</tr>
<tr>
<td>2-year college or community college</td>
<td>1</td>
</tr>
<tr>
<td>Trade or Technical School</td>
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</tr>
<tr>
<td>Ethnicity</td>
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<td>Caucasian or White</td>
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<td>Asian American</td>
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<td>Hispanic or Latino</td>
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<tr>
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<tr>
<td>Biracial</td>
<td>0</td>
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<tr>
<td>Other</td>
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<td>Disability Status</td>
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<tr>
<td>Psychological</td>
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</tr>
<tr>
<td>Both Physical and Psychological</td>
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<tr>
<td>Neither</td>
<td>4</td>
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</table>

*Note, n=11*
Figure 3

Binary symmetric similarity matrix

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<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Note, \( n = 1 \)

Figure 4

Square similarity matrix
The next step in the concept mapping process is the grouping of concepts based on an agglomerative hierarchical cluster analysis. To begin this process statements are separated from the previous analyses and treated as individual clusters. From here, Ward’s algorithm is used to determine within-cluster variance that is represented by distance between statements (Kane & Trochim, 2007) (see Figure 6). Clusters can then be grouped together based on their proximity. There is no correct number of groups to create based on a mathematical formula, and the number of groups is ultimately left up to the researcher. After the number of groups are determined a visual representation of this analysis is created. For this study, similar concepts were clustered into five groups, and a color overlay was placed to help emphasize their connection (see Figure 7). In addition, labels were suggested by the software based on the names participants created for their sorted piles.
Figure 6

*Agglomerative hierarchical cluster*
Rating Data

Of the 44 participants who completed the rating portion, only one was removed from the aggregate data because their ratings were 5 for all the statements, leaving 43 viable participants. However, when reviewing the demographic data for the activity, only 40 participants’ demographic data is available. This discrepancy suggests that three of the participants who completed the rating activity did not complete the demographics questionnaire. For participant demographic data regarding the completion of the sorting activity, please reference Table 6. Table 7 represents the mean ratings of each statement for all participants regardless of demographic variable.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
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<td></td>
</tr>
<tr>
<td>Over 35</td>
<td>33</td>
<td></td>
<td>82.5</td>
</tr>
<tr>
<td>29-35</td>
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<td>12.5</td>
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<td></td>
<td>5</td>
</tr>
<tr>
<td>18-22</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>Post-secondary education</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4-year college or university</td>
<td>33</td>
<td></td>
<td>82.5</td>
</tr>
<tr>
<td>2-year college or community</td>
<td>7</td>
<td></td>
<td>17.5</td>
</tr>
<tr>
<td>college</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Trade or Technical School</td>
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<td></td>
<td>0</td>
</tr>
<tr>
<td>Ethnicity</td>
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<td></td>
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</tr>
<tr>
<td>Caucasian or White</td>
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<td>80</td>
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<td>Asian American</td>
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<td>Hispanic or Latino</td>
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<td>American Indian, Native American, or Alaskan Native</td>
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<td>5</td>
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<td>0</td>
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*Note, n=40*
### Table 7.

**Rating Summary**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Number of Participants</th>
<th>Mean Score</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement 14</td>
<td>43</td>
<td>4.77</td>
<td>0.42</td>
</tr>
<tr>
<td>Statement 2</td>
<td>44</td>
<td>4.41</td>
<td>0.83</td>
</tr>
<tr>
<td>Statement 17</td>
<td>44</td>
<td>4.09</td>
<td>1.02</td>
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<tr>
<td>Statement 13</td>
<td>44</td>
<td>3.89</td>
<td>0.98</td>
</tr>
<tr>
<td>Statement 7</td>
<td>43</td>
<td>3.72</td>
<td>1.06</td>
</tr>
<tr>
<td>Statement 15</td>
<td>44</td>
<td>3.64</td>
<td>1.28</td>
</tr>
<tr>
<td>Statement 4</td>
<td>44</td>
<td>3.61</td>
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<tr>
<td>Statement 8</td>
<td>44</td>
<td>3.61</td>
<td>1.05</td>
</tr>
<tr>
<td>Statement 6</td>
<td>44</td>
<td>3.59</td>
<td>1.19</td>
</tr>
<tr>
<td>Statement 12</td>
<td>44</td>
<td>3.55</td>
<td>1.12</td>
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<td>Statement 16</td>
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<tr>
<td>Statement 9</td>
<td>44</td>
<td>3.16</td>
<td>1.3</td>
</tr>
<tr>
<td>Statement 3</td>
<td>44</td>
<td>3.11</td>
<td>1.3</td>
</tr>
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</table>
Lastly, to integrate the sorting and the rating data, a cluster rating map was created (See Figure 8). This cluster map is a visual representation of how important each group is to the rating participants. The importance of each pile is represented by the number of layers present. For this graphic, one layer represents a rating value between 3.38 and 3.46; two layers represents a rating value between 3.47 and 3.54; three layers 3.55 and 3.62; four layers 3.63 and 3.70; and five layers 3.71 and 3.78. Both group one (3.78) and three (3.73) have five layers, while group five (3.58) has three, and groups two (3.41) and four (3.38) have one.

Figure 8

*Importance cluster rating map*

Supplemental Findings

After initial data was analyzed in aggregate, a further breakdown of group differences was conducted using between group t-tests. Differences in group ratings between disabled and
non-disabled participants, and Caucasian and non-Caucasian participants were assessed.

Significant differences were found in three out of five cluster ratings between disabled and non-disabled veterans (Table 8), but no significant differences were found between the five cluster ratings in group members who identified as Caucasian or White compared to those who did not identify as Caucasian or White (Table 9).

Table 8

*Group Difference in Each Cluster (Disability and No disability)*

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Disability</th>
<th>No Disability</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Informational</td>
<td>4.02</td>
<td>0.41</td>
<td>3.51</td>
<td>0.50</td>
</tr>
<tr>
<td>Vet Accom.</td>
<td>3.63</td>
<td>0.17</td>
<td>2.96</td>
<td>0.18</td>
</tr>
<tr>
<td>Group</td>
<td>3.92</td>
<td>0.51</td>
<td>3.55</td>
<td>0.43</td>
</tr>
<tr>
<td>Other M.H.</td>
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<td>0.38</td>
<td>3.00</td>
<td>0.07</td>
</tr>
<tr>
<td>Social</td>
<td>3.66</td>
<td>0.35</td>
<td>3.54</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Note, n = 24 for disability and n = 14 for no disability; * denotes significant difference in group ratings, p ≤ .05
### Table 9

*Group Difference in Each Cluster (Caucasian and non-Caucasian)*

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Caucasian</th>
<th></th>
<th>Non-Caucasian</th>
<th></th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0.7124</td>
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</table>

*Note, n = 30 for Caucasian n = 8 for other than Caucasian; * denotes significant difference in group ratings, p ≤ .05*
Chapter 5: Discussion

The purpose of this study was twofold. First, it was to explore the biopsychosocial support that student veterans report they need to successfully transition from the military to college, and, second, it was to help post-secondary institutions identify the needs of student veterans to more effectively implement programs that could improve retention and graduation rates. Group concept mapping was used to accomplish this task due to its ability to qualitatively identify student veteran perceptions of the need for resources on campuses as well as provide quantitative data as to which items are most important to the student veteran (SV) sample taken.

The research question prompted participants to think about their transitional needs within the framework of the biopsychosocial model. Therefore, the statements and clusters created by the participants will be examined more closely through the lens of the biopsychosocial model. The results demonstrate the complexity of the population sampled, as well as provide valuable insights into the needs of SVs transitioning to college.

Biological Component of SV Statements

When viewing the results through the lens of the biopsychosocial model, they appear to be mixed. For instance, despite robust data demonstrating a link between physical disability and impaired emotional well-being and social functioning, no additional data on this topic was gathered from this study (Capaldi et al., 2011; Outcalt et al., 2015; Phillips et al., 2016). Only one of the 17 items generated was clearly related to the biology of a physical disability. Specifically, item 5, designated parking for handicapped veterans, was rated as the third lowest item ($M = 3.25$) by 44 veterans, 24 of whom reportedly had a psychological or physical disability.
These results could be due to a myriad of reasons. For example, the SVs who completed this study may have had handicapped parking at the post-secondary institution they attended, or it is possible they did not want to be singled out amongst their peers. It is also possible that the participants of this study believe that post-secondary institutions cannot address the physical issues such as sleep disturbance, traumatic brain injury, or pain that some SVs bring to campus. Without collecting additional qualitative data, it is difficult to determine why so few statements regarding physical disability were generated or why the one item generated was rated so poorly among SVs in this study.

**Psychological Component of SV Statements**

Regarding the psychological component of the biopsychosocial model, there were more points of data available for impressions. Previous research reported that SVs have elevated rates of suicide, PTSD, and depression (Bryan et al., 2014; Lapierre et al., 2007; PNPI, 2018; VA, 2018). The results of this study reflect the importance SVs place on psychological health. Several items generated during the brainstorming portion directly related to psychological health. Specifically, these items include item 2 ($M = 4.41$), designated counselors on campus who are familiar with veteran needs; item 3 ($M = 3.11$), couples counseling; and item 7 ($M = 3.72$), have veteran-specific group therapy options available. Two of the three items (items 2 and 7) were rated among the top five items for SVs participating in the rating portion. Both items call for veteran-specific counseling and align with the 58% of SVs in a previous survey who identified mental health services as a primary need on campus (*West Virginia University*, 2018).

SVs in this study clearly indicated their desire for veteran-specific counseling options, in both individual and group format. The most highly rated item (item 2) specifically referenced counselors familiar with veteran needs. This request, along with the wish to have veteran-
specific groups (item 7), illustrates that SVs are aware of the differences that exist between them and their civilian counterparts that were identified in previous research (Ackerman et al., 2009; Alschuler & Yarab, 2016; Igielnik, 2019). These requests provide a daunting task for college counseling administrators who may be tasked with providing services for students on campus and training for college counseling staff. Additional research may be useful in identifying which veteran needs are most pressing for college counselors to treat.

**Sociological Component of SV Statements**

The social integration of veterans on campus is problematic. In previous research, SVs reported difficulties connecting with college peers (Ackerman et al., 2009). Additionally, the substantial difference between the military and college life leaves SVs feeling unsupported, disconnected, and without structure (Ahern et al., 2015). The results of this study lend support to the social struggles identified by SVs. In this study, SVs who participated in the brainstorming portion created six items that could fit in the social category of the model. Item 6 suggested the need for events where veterans speak in front of staff and students to help them understand SVs better, item 8 recommended that colleges hold events that encourage veteran and non-veteran students to socialize with each other, number 9 stated the need for veteran appreciation events, item 10 recommended the creation of designated areas where veterans can hang out, item 13 suggested increasing resources for SVs, such as tutoring and campus events to foster connection, and item 17 noted that education for professors and instructors on veteran needs could be productive. During the rating portion, two of the six items were rated in the top five by SVs (items 13 and 17) while two of the six were rated in the bottom five (items 9 and 10). This dialectic rating style among social items cannot be explained through looking at the data alone.
without further inquiry with the SVs who participated. However, when looking at the specific items, some similarities emerge.

Items 6 and 17 suggested that SVs do not believe their instructors and peers understand veteran culture. These statements are congruent with the results of the Osborne (2014) study, which reported that SVs felt that universities were liberal and anti-military. Item 13 is a bit more unclear. This statement could be interpreted numerous ways, and without direct input from the SVs who participated in the study, it is impossible to understand their intent. First, the statement clearly references fostering connection. If interpreted on this piece alone, it would fit into the social category. However, the participants could have focused on the beginning of the statement regarding tutoring. This piece may not fit as neatly in the social category and may align closer with the academic struggles veterans experience (Durdella & Kim, 2012; PNPI, 2018). This conclusion seems more likely since other social items are rated much lower.

Items 9 and 10 directly align with the social domain but were rated much lower compared to the other social items. Specifically, these two items were ranked within the bottom five. Without a follow-up interview with the participants, it is unknown as to why these items were ranked low. However, the common theme is that both items single SVs out from their peers by either creating a unique space or event. It is interpreted by the researcher that holding events or having specific meeting places for SVs may compound their feelings of alienation and leave them “vulnerable to inaccurate assumptions about their mental health and overall wellbeing” by both faculty and students (Osborne, 2014, p. 254).

**Interpretation of Additional Items**

Additionally, there are numerous statements that do not fit neatly into a domain of the biopsychosocial model unless underlying problems are considered, such as the interactions
between components and the possibility of executive functioning problems SVs may bring to campus due to psychological or physical injury. For instance, the highest rated item was item 14, which reported the need for assistance with GI Bill usage and Chapter 31 benefits ($M = 4.77$). The GI Bill and Chapter 31 benefits relate directly to how money is dispersed to SVs. These results supplement Borsari et al.’s (2018) study, in that they also reported that SVs do not understand the system of disbursement. Not understanding the disbursement system and delaying compensation could place incredible stress on SVs, as they would now face the prospect of not being able to pay their tuition and other essential bills. The ability to understand the process and effectively navigate the steps to complete and file the necessary paperwork could also be impacted by executive functioning problems that are common to TBI, PTSD, and depression (Burriss et al., 2008; Campbell et al., 2009; Geuze et al., 2009; Scheiner et al., 2014).

Additionally, there are six items that were generated during the brainstorming portion that upon first glance do not fit neatly into the biopsychosocial model. However, each can be better understood when stress placed on the SV and executive functioning concerns are factored in. These items all fall below the five most important items and are clustered in the middle of the overall rating system. The list includes: item 1: Have someone in a first sergeant type role in charge of helping veterans process paperwork; item 4: Assistance finding housing near the college/university; item 11: Help finding part time work; item 12: Assistance finding childcare; item 15: Priority registration for veterans; and item 16: Courses that help veterans reprogram their mentality to move past military logic to civilian lifestyle. Items 4, 11, 12, and 15 are interpreted by this researcher as efforts to reduce stress that surrounds the transition to college. However, items 1 and 16 speak to the struggle to let go of the military culture they have been a part of and assimilate to college campuses.
Item 1 speaks to the need for a first sergeant-like figure on college campuses. In the U.S. Army, a first sergeant is described as “the ultimate enforcer of standards and discipline” (FedPay, 2020, para. 4). Interestingly, the request to have a person at the university who would be in a first sergeant role may serve two purposes for SVs. First, as mentioned previously, the need to understand the disbursement process is critically important to the SVs in this study. The second reason speaks to the perceived lack of structure and support mentioned by veterans in a previous study (Ahern et al., 2015). Lastly, if executive functioning is a problem for the SV, having a person that could reliably help them sort through the complicated process of attending college could be seen as critical. Using the term first sergeant implies the need for someone to add structure and accountability to the academic process. Therefore, some SVs may feel less stressed by having a sense of structure and support recreated at their college or university.

Lastly, item 16 requests courses that help veterans reprogram their mentality to move past military logic to a civilian lifestyle. The statement uniquely speaks to the perceived differences between veterans and civilians. As stated previously, military members share a culture of sacrifice, discipline, uniformity of dress, speech, and thought, as well as a deep commitment to the team to which they belong and the mission they must accomplish (Burek, 2018). Item 16 acknowledges the shared military culture and recognizes that this culture impedes the ability for some SVs to relate to their civilian peers. This would potentially affect their ability to form friendships or fit in on campus. What is different about this item compared to the others is that it approaches the needs of SVs with an internal intervention (i.e., learning skills to adapt to college), instead of external interventions (e.g., “educating others about veterans”).
Strengths and Limitations

A major strength of this study is that SVs led the data collection and interpretation of the data through the Global Max system. This type of data collection is highly informative for college administrators who are interested in the needs of SVs. The SVs in this study have not only generated 17 items they believe are critical to obtaining a smoother transition to college, but they also rated the importance of each. These ratings could be a tool for administrators to utilize when reviewing the resources they offer SVs on campus. Furthermore, the results of the rating portion paired with future research on utilization and effectiveness of SV services would allow college administrators to prioritize the implementation of programs that do not exist on their campus.

Limitations

As with any study, there are numerous limitations to address. Specific threats to internal and external validity have been identified and will be discussed in the next two sections.

Threats to Internal Validity

Likely, the largest threat to internal validity is the selection method of participants. Due to Covid-19 restrictions placed on campuses, face-to-face meetings were not possible, requiring the researcher to utilize purposive sampling procedures and social media resources. Participants were recruited using volunteer and snowball sampling (i.e., sharing of posts) methods and by posting on the researcher’s personal social media web page, instead of the preferred random sampling technique. It is likely that this method influenced the demographic variables of participants. For example, most participants were over the age of 35, which is comparable to the age of the researcher, thus limiting the input of younger student veterans. Future research needs
to ensure that a randomized sampling procedure is used to more accurately capture a broader response from SVs.

Secondly, the data collection technique of this study may have affected the overall response style of SVs, specifically in regard to the sorting and ranking sections. Group concept mapping does not call for the use of focus groups or statistical analysis to evaluate the statements created during the brainstorming portion of the study. Because of the lack of analysis, it is difficult to know if the statements created a priming effect for SVs who participated in the sorting and ranking portions of the study. Future research could address this concern by creating focus groups to test the priming effects of statements created in the brainstorming portion.

Attrition was another major limitation of this study. Twenty-two participants started a portion of the study but did not finish it by clicking on the “finished” button. This problem may have been the most apparent during the sorting section as all 16 (out of 31) participants that did not finish the sorting also did not move on to the ranking portion. It should be noted that one participant commented on the original Facebook link that they did not understand the directions for sorting. Due to this complaint, the high level of attrition, and the errors seen in the completed sorting data, subsequent postings only included the link to the ranking portion of the study in an attempt to limit attrition and obtain useful information. Future studies may look to include a tutorial video to help reduce the attrition during the sorting portion of the study.

Another threat to the internal validity of this study is how this problem of attrition may have also affected the findings. Data that was entered during any portion of the study was captured regardless if the participant completed the task by clicking on the finished button. Although the study was open for three weeks, it is possible that some SVs may have intended to add additional data but were unable to after the study was closed. It is unclear how this could
specifically be addressed since each participant is anonymous, but data sets could be incomplete. To combat this limitation, participant data was removed prior to the analysis if their entries did not follow the directions of the task.

**Threats to External Validity**

Four threats to the external validity of this study were present. First, unbeknownst to the researcher, several of the SV sites that posted links to the study had a history of being compromised by internet hackers. This increased negative bias from the participants, in which two members perceived the link to the study as fraudulent and were particularly angry with the offer to win a gift card to participate in the study. It is unclear how these posts affected the recruitment of participants, but it would seem likely that posts declaring the study to be fraudulent would negatively impact the recruitment of participants. Future researchers will likely not be able to determine if webpages have been hacked, but serious consideration should be given to incentivizing studies due to the adverse response the offer provoked in this study. It is also recommended that future researchers utilize in-person recruitment methods to combat this limitation, as it would likely decrease the bias individuals have about the internet.

Secondly, the demographics of the data set make the generalizability to the entire SV population difficult. Although efforts were made to post on SV webpages of four-year institutions and community colleges, the results were likely affected by the limited spread of demographics. In the current study, the percentage of SVs that identified as Caucasian or White (80%) is significantly higher than other SV estimates (63%) and each category that represents people of color is below SV estimates (PNPI, 2018). Previous literature reports that most SVs fall between the ages of 24-40 years old, and the average age of SVs starting college was 25 years old (PNPI, 2018). In this study, there was no way to determine the average age, but data
reported that 80% of the SVs were over the age of 35 and only 3% fell within the 23- to 28-year-old age bracket. Lastly, the number of SVs who attended a four-year institution (79%) far exceeded the 44% found in a previous study (PNPI, 2018). These numbers demonstrate that certain populations were overrepresented in this study’s sample. Future studies should incorporate ways to balance the demographics of the population. This could be achieved by more on-campus recruiting as well as targeting community colleges and technical schools.

Third, due to the method of recruitment, it was impossible to determine the resources that were present at the post-secondary institutions that participants attended. This is a significant problem because SVs may have had the resources they requested on campus but were not aware of or did not access them for various reasons. Additionally, it is unclear how effective the requested resources are at retaining SVs or improving standard measures of academic success such as grade point average or graduation rates. Therefore, further research should address not only the availability of the resources SVs requested on campus, but also the utilization and effectiveness of SV-specific resources.

The fourth, and final, threat to external validity identified is sample size for differing groups. During the supplemental analysis, group differences emerged, most notably between SVs who identified having a disability and those SVs who did not identify a disability. However, these results must be interpreted with caution due to the uneven group sizes. These disproportionate group sizes may affect the results. Future research should look to explore these group differences but focus on the recruitment of equal sized groups.

**Implications for Practice**

For SVs, this information is useful for building autonomy and encouraging activism on college campuses. Currently, there are several national SV groups, and many more campus-
specific groups that advocate for SVs. This study could be used as a catalyst to strengthen their attempts to add programs on campus by providing empirical evidence that SVs strongly desire certain services to help their transition to student life.

For counseling psychologists, the results of this study clearly indicate the need for veteran-specific counseling options on campus. This would require additional training in not only SV mental health issues such as PTSD, but also possibly a greater understanding of military culture.

For college administrators, the results could provide a piece of information to better inform program development on campus. Administrators in college counseling centers have data indicating that SVs value mental health services, especially from staff who understand veteran issues. This could lead to the allocation of resources for training staff and developing programs with SV mental health needs in mind.

For administrators who deal with accommodations for students with disabilities there is data that suggests that SVs may have mental or physical health conditions that negatively impact their executive functioning. This data could lead to a deeper conversation about what accommodations can be offered to SVs to help them become acclimated to the college campus and be successful in the classroom. Additionally, due to the invisible nature of many of the disabilities SVs have acquired, a screening procedure that asks SVs about their disabilities may help universities provide information about resources offered on campus that could help these SVs handle the rigors of academia. Lastly, many colleges have resource centers for veterans. The data from this study suggests that ensuring that these resource centers have staff familiar with GI Bill and Chapter 31 benefits is critical for SV success. It could also be helpful to include
resources to help SVs find jobs, housing, and childcare, as each was identified by SVs in this study.

Overall, ensuring the implementation of the services requested on campus could have a cascading effect on the overall health of SVs. Previous literature has shown that SVs arrive on campus with unique perspectives and problems that could impair their ability to function on campus (Ackerman et al., 2009; Alschuler & Yarab, 2016; Igielnik, 2019). Implementing suggestions to improve SV’s transition to college could improve functioning on all domains of the biopsychosocial model.

Implications for Future Research

The results of this study opened numerous opportunities for future research. Aside from the suggestions offered to help address the limitations of this study, several avenues could help expand our knowledge of veterans’ transitional needs. First, the design of this study drew from an internet sample of SVs. This design did not account for the resources available for the SVs that participated in the study. Future research could seek to gather more campus-specific information that could be more useful for administrators on campus. For example, a college or university that has counselors trained in veteran-specific mental health issues (as requested in this study) could see a different list of services requested by SVs, which could lead to different priorities for administrators on the campus surveyed.

Second, research could seek to understand the utilization rates of veteran services on campus. For example, SV utilization rates of college counseling centers where there is a counselor who is trained in veteran-specific topics could be compared to the SV utilization rates of college counseling centers without a counselor trained in providing veteran counseling. Research in SV utilization of services could be paired with the data collected in this study to
provide additional data for college administrators. This combination of data could allow administrators to implement services that are both highly sought and utilized by SVs, providing the most efficient utilization of precious resources.

Third, the results of this study illustrated what SVs wanted to have implemented on campus but did not explore how effective any of the suggestions have been when implemented on campus. Future research could identify campuses where the recommended services are implemented and compare variables such as GPA, college satisfaction, retention and graduation rates with campuses that do not have these services. Again, this data could greatly benefit college administrators in their determination of services they wish to implement on campus.

Lastly, the comparison of sub-groups (i.e., Caucasian vs non-Caucasian; disabled vs non-disabled) within the SV population in this study provided some evidence that SVs within various sub-groups may desire different services. Future research could explore quantitatively and qualitatively the needs of various culturally diverse sub-groups that fall under the veteran label. This data could help give voice to groups that have not been historically researched and provide more nuanced data to administrators.

**Conclusion**

This study explored the desired needs of SVs to help ease their transition to college. The mixed method approach utilized in group concept mapping provided an excellent tool for SVs to contribute qualitatively and quantitively. Through this methodology SVs who participated created a list of items they believed would help to ensure a successful transition to college and rated each on importance. To the researcher’s knowledge, this is the first study to explore SVs’ voices using concept mapping. For SVs, future researchers, and college administrators, these results can be a meaningful starting point to ensuring appropriate resources are put in place to
help elevate the voices and needs of individuals who dedicated years of their lives to serve in the United States military. The results may also provide a road map to prepare our veterans who are interested in entering college. For example, knowing that other SVs rated processing paperwork as a top concern can alert incoming SVs of the importance of finding appropriate resources.

Interestingly, a comparison of several subgroups within the sample demonstrated some group differences in the ratings of individual items. Although some caution should be taken in interpreting these results due to the limitations of this study, this is still an area that warrants further research. Further exploration in this area may confirm these results and shift SV resources on college campuses.

Overall, the findings of this study provide further insight into SV perceptions of what programs should be implemented on college campuses. This study could be a piece of information used by school officials to conserve budget and focus on implementing the highest-rated items if they do not exist on their campus. Primarily, SV responses focused on having personnel on campus that are familiar with veteran issues such as GI Bill disbursement and mental health. Therefore, providing veterans with knowledgeable personnel could improve the overall performance of SVs as well as their satisfaction with their college experience. In turn, this could lead to more revenue for colleges through higher retention rates and improved recruiting.
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Appendices

Appendix A: Cover Letter for Brainstorming Participation

Dear Participant,

This letter is a request for you to take part in a research project to explore the transition needs of student veterans. This project is being conducted by Nathan Bridendolph, MS in the Counseling Psychology department at WVU under the supervision of Dr. Jefferey Daniels, a professor at WVU in the Counseling Psychology department, to fulfill requirements for a Doctoral degree in Counseling Psychology.

If you decide to participate, you will be asked to generate ideas about what services colleges and universities could provide to help veterans transition from military service to the college campus. Your participation in this project will take approximately 10 minutes, but the time limit is ultimately determined by how many responses you generate. The first inclusion criterion for this study is that all participants must be a veteran. Specifically, anyone who has served in the U.S. Army, Navy, Air Force, Marines, or National Guard as an active or reserve personnel will be included in this study. In addition, participants will be screened for student status. Student status will include any person who is currently attending or has attended a form of post-secondary education after leaving the military. You must be 18 years of age or older to participate. Each participant in the brainstorming portion of the study has a chance to receive a $20 Amazon e-gift card. You may not receive any other direct benefit from this study.

Your involvement in this project will be kept as confidential as legally possible. All data will be reported in the aggregate. You will not be asked any questions that could lead back to your identity as a participant. Your participation is completely voluntary. You may skip any question that you do not wish to answer, and you may discontinue at any time. Your class standing will not be affected if you decide either not to participate or to withdraw. West Virginia University's Institutional Review Board acknowledgment of this project is on file. Your email address will be requested if you chose to enter your name in the drawing for the gift card. However, it will be stored separately from any data collected in the study and deleted immediately after the drawing is conducted.

If you have any questions about this research project, please feel free to contact me by e-mail at nbridend@mix.wvu.edu or Dr. Jefferey Daniels at Jefferey.daniels@mail.wvu.edu. If you have any questions about your rights as a research participant, please contact the WVU Office of Human Research Protection by phone at 304-293-7073 or by email at IRB@mail.wvu.edu.

I hope that you will participate in this research project, as it could help us better understand what services student veterans believe would ensure a successful transition from the military to the college setting. Thank you for your time and consideration.

Sincerely,

Nathan Bridendolph
Appendix B: Cover Letter for Sorting and Rating

Dear Participant,

This letter is a request for you to take part in a research project to explore the transition needs of student veterans. This project is being conducted by Nathan Bridendolph, MS in the Counseling Psychology department under the supervision of Dr. Jefferey Daniels, a professor at WVU in the Counseling Psychology department, to fulfill requirements for a Doctoral degree in Counseling Psychology.

If you decide to participate, you will be asked to fill out a questionnaire regarding your demographic information and to sort and rank a list of ideas/services that could help veterans transition to college that were generated by other veterans who participated in an online brainstorming session. Your participation in this project will take approximately 15 minutes. The first inclusion criterion for this study is that all participants must be a veteran. Specifically, anyone who has served in the U.S. Army, Navy, Air Force, Marines, or National Guard as an active or reserve personnel will be included in this study. In addition, participants will be screened for student status. Student status will include any person who is currently attending or has attended a form of post-secondary education after leaving the military. You must be 18 years of age or older to participate. Each participant in the structuring portion of the study has a chance to receive one of four $20 Amazon e-gift card. You may not receive any other direct benefit from this study.

Your involvement in this project will be kept as confidential as legally possible. All data will be reported in the aggregate. You will not be asked any questions that could lead back to your identity as a participant. Your participation is completely voluntary. You may skip any question that you do not wish to answer, and you may discontinue at any time. Your class standing will not be affected if you decide either not to participate or to withdraw. West Virginia University's Institutional Review Board acknowledgement of this project is on file. Your email address will be requested if you chose to enter your name in the drawing for the gift card. However, it will be stored separately from any data collected in the study and deleted immediately following the gift card drawing.

If you have any questions about this research project, please feel free to contact me by e-mail at nbridend@mix.wvu.edu or Dr. Jefferey Daniels at Jefferey.daniels@mail.wvu.edu. If you have any questions about your rights as a research participant, please contact the WVU Office of Human Research Protection by phone at 304-293-7073 or by email at IRB@mail.wvu.edu.

I hope that you will participate in this research project, as it could help us better understand what services student veterans believe would ensure a successful transition from the military to the college setting. Thank you for your time and consideration.

Sincerely,

Nathan Bridendolph
Appendix C: IRB Approval Letter

The West Virginia University Institutional Review Board has reviewed your submission of Exempt protocol 2009112137. Additional details regarding the review are below:

- This research study was granted an exemption because the Research involves educational tests, survey procedures, interview procedures or observation of public behavior and (i) information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects responses outside the research could not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects financial standing, employability, or reputation [45 CFR 46.101(2)]. All exemptions are only good for three years. If this research extends more than three years beyond the approved date, then the researcher will have to request another exemption. The following documents have been acknowledged for use in this study and are available in the WVU+kc system:

The following documents were reviewed and approved for use as part of this submission. Only the documents listed below may be used in the research. Please access and print the files in the Notes & Attachments section of your approved protocol.
• Brainstorming demo and research question.docx
• Appendix E.docx
• brainstorming Cover Letter.docx
• sorting Cover Letter.docx

WVU IRB acknowledgement of protocol 2009112137 will expire on 10/01/2025.

If the study is to continue beyond the expiration date, a renewal application must be submitted no later than two (2) weeks prior to expiration date. It is your responsibility to submit your protocol for renewal. Once you begin your human subjects research, the following regulations apply:

1. Unanticipated or serious adverse events and/or side effects encountered in this research study must be reported to the IRB within five (5) days, using the Notify IRB action in the electronic protocol.
2. Any modifications to the study protocol should be submitted only if there will be an increase in risk to subjects accompanying the proposed change(s).
3. You may not use a modified information sheet until it has been reviewed and acknowledged by the WVU IRB prior to implementation.

The Office of Research Integrity and Compliance will be glad to provide assistance to you throughout the research process. Please feel free to contact us by phone, at 304.293.7073 or by email at IRB@mail.wvu.edu.

Sincerely,

[Signature]

Lilo Ast
IRB Administrator
Appendix D: Demographic Questionnaire

1. What is your current age?
   - 18-22 years old
   - 23-28 years old
   - 29-35 years old
   - Over 35 years old

2. Which of the following describes the post-secondary institution you attend or previously attended?
   - Trade or technical school
   - Community college, or another 2-year institution
   - 4-year college or university

3. Which of the following best represents your ethnic/racial identity?
   - African American or Black
   - Asian American or Pacific Islander
   - American Indian or Native American or Alaskan Native
   - Arabic American or Middle Eastern
   - Hispanic or Latino/a
   - East Indian or Indian American
   - Caucasian American or White
   - Biracial or Multiracial American
     - Please specify: ______
   - Other: ______

4. Do you suffer from a physical or psychological disability (e.g., musculoskeletal, TBI, posttraumatic stress disorder, depression, etc.)?
   - Yes, physical disability
   - Yes, psychological disability
   - Both
   - No