UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE POST 9/11 VETERAN AND ADJUSTMENT TO HIGHER EDUCATION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

Degree of

DOCTOR OF PHILOSOPHY

By

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Norman, Oklahoma
2014

THE POST 9/11 VETERAN AND ADJUSTMENT TO HIGHER EDUCATION

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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Acknowledgements

As I reflect on not only the last 4 plus years of study at the University of Oklahoma, but the 10 years of formalized study of psychology, it is very apparent that recognition of those who have supported my academic endeavors is in order. 10 years ago, I was a freshly discharged war veteran of the United States Marine Corps who had little inkling of which direction to go. After taking an introduction to psychology course at Northeastern State University, I knew that I was hooked on the study of psychology and needed someone to look to in order to help chart a course for the future. I consider myself very fortunate to have found three such people in Harriet Bachner, Kenny Paris and Alicia Casas-Celaya, who encouraged and guided me through the undergraduate and Master's degree processes, without which I would not be where I am today. Upon arrival at the University of Oklahoma my understanding of the field was further broadened and forged by Lisa Frey, Jody Newman, Paula McWhirter, Rockey Robbins, and Terry Pace. I would be remiss not to mention Bela Geczy, as he provided mentorship above and beyond what I expected from a specialty practicum experience. I would also like to take this opportunity to thank my committee: Cal Stoltenberg, for his insight into higher education that made my research more meaningful; H. Michael Crowson, for his guidance not only on this project but the hours he spent in the classroom teaching the merits of statistical analysis in the social sciences; John Linck, who demonstrated excellence both in the classroom and his work at the VA; and Leslie Williams, who graciously agreed to serve on my committee as an outside member, and who shared her perspectives on the world of education. Finally, Denise Beesley, who has served not only as my committee chair, but also as an advisor and mentor, who has

provided encouragement and caring since my arrival at the University of Oklahoma. Thank you all for taking a chance on me.

I also believe it appropriate to recognize the members of my academic cohort. We have grown together through a process that has been both challenging and rewarding. We have laughed and cried together, celebrated and mourned together, and through it all experienced the human condition even as we were studying it. My education would not have been complete without you, Mark Yapelli, Jessica Brody, Aaron Jennings, Jon Hart, Scott Drabenstott, and Deanna Gallavan.

My education in applied psychology would not have been possible without the work and time of Ann Hryshko-Mullen, Leigh Johnson, and Monty Baker.

To the men and women of the United States Marine Corps with whom I proudly served and the men and women of the United States Air Force, with whom I proudly serve now, thank you for letting me share your lives, I would not be who I am today without these experiences. In particular I would like acknowledge Scott Anderson for his work with me on this research.

Finally, to my family, I would not find myself on the threshold of achieving my dreams without the unconditional love and support you have provided over the years. Kerry and Fred Date, Jill Date, Jana, Josh, and Kaylei Lewis, you have all encouraged me throughout my time in graduate school and for that I thank you. To my late uncle, Walter Kent Wilson, thank you for your interest in my studies. To my mother, Jeannette Wilson and late father H.N. “Nick” Wilson, thank you so much for providing support and teaching me the best lessons of all- that being uncomfortable in the pursuit of a goal is not something to avoid, but welcome; that anything worth doing is a process that will

take time; and that education is not preparation for life, education is life itself. Finally, to my wife, Courtney Wilson, thank you for taking a chance on me all those years ago. You have supported me in this process since the day I came home and told you I was thinking about applying to doctoral programs. You have put your life on hold at times during this journey, moved places you had never considered moving, and kept me (somewhat) sane through it all. Without you this would never have been possible. As we joyfully await the arrival of our first child and another stage of life, it is fitting that the door to my formal education is closing. I love you.

Index

List of Tables

Abstract

This study was designed to explore the extent to which perceived alienation, level of post-traumatic stress and co-morbid traumatic brain injury, and level of grit influence veteran students' (n = 60) reported motivation toward higher education. Additionally, it also examined traditional (n = 57) and non-traditional (n = 36) college students' attitudes toward veteran student peers. For the traditional student sample, results revealed positive, significant correlations between academic amotivation and perceived alienation, post-traumatic stress, and TBI symptoms. Non-traditional students reported positive, significant relationships between amotivation and TBI symptoms. Veteran students reported positive, significant relationships between perceived alienation and post-traumatic stress, and TBI symptoms. Level of grit was found to be significantly lower in traditional students when compared to non-traditional and veteran students. Specific to the veteran student sample, symptoms of TBI were the greatest predictor of amotivation.

Chapter One

Introduction

Overview

Two conflicts, one recently ended and one ongoing in Iraq and Afghanistan (Global War on Terror or GWOT), have produced many veteran students who are now entering higher education. In order to assist these returning veterans in their transition, the Post 9/11 GI Bill was passed into law in August of 2008 (Sewall, 2010). During the year following the passage of this legislation, 270,666 students used their benefits at institutes of higher learning (Sewall, 2010). While this number indicates how many veterans actually used their educational benefits, Oherrin (2011) reports over 500,000 veterans applied for certificates of eligibility, which indicates they intend to use their benefits at some time in the future. This suggests nearly twice as many potential students have indicated an interest in pursuing a college education as compared to those who have already begun using their benefits at an institute of higher learning.

The GI Bill may ease some financial considerations for veterans; however, adjustment to a new and sometimes challenging environment may require more than financial support to pay for educational costs. For example, given the nature of the conflicts currently taking place, many students who are Reserve or National Guard members are subject to multiple deployments, which may lead to early withdrawal before a semester is completed (Ruman, 2010). These spontaneous deployments can interrupt student academic progress, often leading to frustration. In addition to premature academic withdrawals due to pending deployments, many returning veterans may be suffering from Posttraumatic Stress Disorder (PTSD) or from sub-syndromal

symptoms of PTSD, which may, in turn, affect their ability to adjust to an academic environment.

Related to the importance of academic adjustment, Hays and Oxley (1986) cite successful integration with a peer group as filling several roles with regard to transition to a higher education environment (HEE), including furnishing role models, validation, and socialization opportunities to aid in adopting a new college student identity. Gerdes and Mallinckrodt (1994) also emphasize the important role social adjustment plays in overall academic adjustment and success. The authors state that elements of social adjustment include becoming integrated into the social life of college, forming a support network, and managing social freedoms (Hays & Oxley, 1986).

Due to their unique circumstances, veterans may experience feelings of isolation and alienation when beginning their academic endeavors. A study focusing on veteran students' feelings of alienation (Elliot, Gonzalez & Larsen, 2011) found that over half of the participants felt as though they did not fit in on campus. Unfortunately, universities may not be aware of the unique needs of returning veterans with regard to academic adjustment, which may hamper their ability to retain these students (Rumann, 2010). Research examining what factors predict success in a military academy environment (i.e., West Point) revealed an identified personality factor labeled "grit" as most predictive of cadet adaptation and retention (Duckworth, 2007; Maddi, Matthews, Kelly, Villarreal, & White, 2012). Extrapolating from this research with military cadets, it seems plausible that level of grit may potentially serve to offset some of the negative aspects of PTSD and alienation which veteran students may experience in the transition to a higher education environment.

Statement of the Problem

As noted previously, there appears to be a sizeable influx of veteran students either currently attending institutes of higher learning or primed to do so. It is only logical to inquire as to what degree these students' adjustment to a HEE is similar to or different from that of a traditional student. Current literature reveals a paucity of information on this topic, especially with regard to differences between veteran students and traditional students. It is the goal of this research to examine some of the issues facing veteran students when they transition from military duty to college. Specifically, this study proposes to examine the degree to which perceived alienation, level of post-traumatic stress (including the co-morbid relationship that exists with post-traumatic stress and traumatic brain injury), and level of grit play in veteran students' motivation toward academic activities. This study will also delve into the previously unexplored issue of traditional and non-traditional college students' attitudes toward veteran students. This aspect of the study may provide two benefits: (1) reassurance for veteran student populations at college campuses across the country if the attitudes of traditional students are found to be favorable, and, if not, (2) information on how campuses might approach educating traditional students and faculty on the unique adjustment issues of returning veteran students.

Finally, the issue of veteran student adjustment not only affects the individual student, but also the university as a whole, including faculty, staff and administration. As previously noted, the economic impact of 500,000 additional students beginning college would be considerable. Additionally, the quality of veteran student adjustment may influence whether or not the veteran completes a degree, which could feasibly

impact the welfare of the state in which the veteran works post-graduation. Given the documented relationship between a higher level of education and a higher income (US Census, 2003), it would be logical to infer that if a veteran student were to graduate, his or her lifetime income (including taxable income) would rise significantly. Increased tax revenues would lead to an increase in the ability for federal, state, and local government to have access to funds needed for projects such as roads, healthcare, defense, and other social needs. Finally, understanding more about the adjustment process of veteran students may lead to better informed interventions focusing on initial adjustment, retention, and veteran student success.

Chapter Two

Literature Review

Theoretical Grounding (Self-Determination Theory)

Self-determination theory (SDT) is a theory of motivation which posits that humans possess innate psychological needs to experience autonomy, competence, and relatedness; and the satisfaction of these needs is essential to personal growth and emotional well-being (Ryan & Deci, 2000). Ryan and Deci (2000) describe the following as the "starting point" for SDT:

> …that humans are active, growth-oriented organisms who are naturally inclined toward integration of their psychic elements into a unified sense of self and integration of themselves into larger social structures. In other words, SDT suggests that it is part of the adaptive design of the human organism to engage interesting activities, to exercise capacities, to pursue connectedness in social groups, and to integrate intrapsychic and interpersonal experiences into a relative unity. (p. 229)

Academic success is strongly influenced by individual differences in motivation and achievement (Komarraju, Karau, & Schmeck 2009). This research uses the word motivation consistent with Deci and Ryan's self-determination theory (Deci & Ryan, 1985) which contends motivation exists on a continuum with amotivation on one end and intrinsic motivation on the other, while extrinsic motivation exists in the middle.

According to Koestner, Taylor, Losier, and Fichman (2010), SDT posits two innate growth tendencies to explain people's positive development and psychological adaptation; namely, intrinsic motivation (the innate energy that people demonstrate

when they pursue a goal) and self-regulation (the tendency to strive to integrate socially-valued regulations initially perceived as being external, such as brushing one's teeth or doing homework). Intrinsic motivation is described as a natural inclination toward assimilation, mastery, spontaneous interest, and exploration, factors essential to cognitive and social development and representing a principal source of enjoyment and vitality throughout life (Ryan & Deci, 2000). The same authors contend that "evidence is now clear that the maintenance and enhancement of this inherent propensity [intrinsic motivation] requires supportive conditions, as it can be fairly readily disrupted by various nonsupportive conditions" (Ryan & Deci, 2000, p. 69). Working from this position, it is likely students in general would require a certain degree of support from the environment in which they operate in order to sustain a high level of intrinsic motivation. Indeed, Ryan and Deci (2000) comment:

> …social environments can facilitate or forestall intrinsic motivation by supporting versus thwarting people's innate psychological needs. Strong links between intrinsic motivation and satisfaction of the needs for autonomy and competence have been clearly demonstrated, and some work suggests that satisfaction of the need for relatedness, at least in a distal sense, may also be important for intrinsic motivation. (p. 71)

Mageau, Vallerand, Charest, Salvy, Lacaille, Bouffard, and Koestner (2009) state that in order for the internalization process (of intrinsic motivation) to occur, people need to be in social environments which nurture innate needs for autonomy, competence, and relatedness. The authors also note the integration process is hindered in controlling, over demanding and rejecting environments, which tends to provoke a

defensive or self-protective process. In this case the term "internalization" refers to an individual's "taking in" a value or regulation, whereas "integration" refers to the further transformation of that regulation into his/her own so it subsequently becomes something that emanates from his/her sense of self (Deci & Ryan, 2000). Koestner et al. (2010) suggest that, from a developmental perspective, students gradually become less intrinsically motivated over the course of their primary education and, by the time they reach college, most of their motivation is driven by external motivation (i.e., the expectations of others or the tangible rewards offered by a better paying job). This statement is one that creates further questions for this study, as veteran students typically have not gone directly from high school to college, i.e., they are non-traditional students, and are likely to have held a job that they may or may not have found satisfying (being in the military). Thus, exploring potential differences in veteran students' level of intrinsic motivation compared to traditional students will be one of the foci of this study.

Extrinsic motivation refers to the performance of an activity in order to attain some separable outcome, and therefore not an activity motivated simply by the joy of partaking in the activity (Deci & Ryan, 2000). Whereas intrinsic motivation is a somewhat straightforward concept, extrinsic motivation is more prone to various presentations which may appear very different from one another. Deci and Ryan (2000) give the example of two students who do their homework on a consistent basis. In one example the student does homework because s/he grasps the potential solid academic performance has on their future. Although they do not love the subject or derive pleasure from engaging in the activity, they continue to engage in it. In the other

example, a student does homework only to adhere to the expectations of the student's parents. Both examples involve extrinsic motivation, but the former case involves a personal endorsement of the activity, whereas the latter involves only compliance. The major difference between the two cases is the degree of relative autonomy each student demonstrates (Deci & Ryan, 2000).

Additionally, Deci and Ryan (1985) introduced a sub-theory into SDT called organismic integration theory (OIT) in order to better explain the differences in types of extrinsic motivation. This sub-theory postulates four different forms of extrinsic motivation in terms of the degree to which the motivations emanate from the self or are self-determined. Extrinsically motivated behaviors which are the least autonomous (or least originating in the self) are referred to as externally regulated (Deci & Ryan, 1985). Individuals who are externally regulated experience motivation in order to satisfy an external demand or reward contingency. This type of motivation is prevalent in operant conditioning, and individuals who experience it are prone to have a perceived external locus of causality (Deci & Ryan, 1985). The example of the student who does homework in order to avoid criticism from his or her parents would fall under this category. The next type of extrinsic motivation with regard to degree of autonomy is labeled introjected regulation, which involves taking in a regulation but not accepting it as one's own (Deci & Ryan, 1985). Introjected regulation involves self-esteem and the ego in that the primary motivational driver is for the individual to demonstrate competence and avoid anxiety or guilt in order to attain ego enhancements such as pride or self-worth (Deci & Ryan, 1985). This type of regulation involves a greater degree of personal investment but is still primarily driven by external factors and, therefore, is not

experienced as part of the self (Deci & Ryan, 1985). The next (in terms of autonomy) form of extrinsic motivation is regulation through identification, which reflects a conscious valuing of behavioral regulation such that the action is accepted or owned as personally important (Deci & Ryan, 1985). Finally, the most autonomous form of extrinsic motivation is integrated regulation, which occurs when identified regulations are fully assimilated into the self (Deci & Ryan, 1985). This type of extrinsic motivation would be demonstrated by the example of the student who does homework to attain a separable outcome, such as increased job prospects or higher earning potential due to a superior level of education. Although this type of extrinsic motivation shares qualities with intrinsic motivation, the two are different constructs due to the primary driver of integrated regulation serving as a means to an end, whereas intrinsic motivation emanates from engaging in the activity itself (Deci & Ryan, 1985).

Deci and Ryan (2000) also identified a construct they termed "amotivation." When a student is amotivated, they lack both extrinsic and intrinsic motivation, and are either hesitant to act or act with a lack of intention, simply going through the motions (Deci & Ryan, 2000). Amotivation results from not valuing an activity, not feeling competent to perform it, or not expecting it to result in the desired outcome (Deci & Ryan, 2000). Self-determination theory as applied to academic pursuits was operationalized in work done by Vallerand, Pelletier, Blais, Briere, Senecal, and Vallieres (1992) and posited that students with higher levels of amotivation were more likely to feel helpless when faced with difficulties and more likely to disengage or discontinue educational pursuits. With regard to relevance to the current study, research conducted by Bye, Pushkar, and Conway (2007) found that non-traditional students

reported significantly higher levels of intrinsic motivation when compared with a traditional student group. Given that veteran students more closely fit the definition of non-traditional students, it would appear logical to assume veteran students would report higher levels of intrinsic motivation when compared to a traditional student group.

Alienation

Speaking before an audience at Duke University in 2010, U.S. Secretary of Defense Robert Gates presented the following thoughts on America's ongoing wars. "For most Americans, the wars remain an abstraction—a distant and unpleasant series of news items that do not affect them personally" (Lewis, 2011). This notion of separation of the military and the general population may plant the seeds for feelings of alienation to arise among veterans. The word 'alienation is derived from the Latin *alienare,* meaning 'estrangement' (Mann, 2001, p.11), which may well describe the relationship between the military and the general public. Since the end of the draft in 1973 (Lewis, 2011), the US military has existed as an all-volunteer force (AVF). Because of this, the number of those who end up serving on active duty is drawn from a small pool, representing less of a cross section of Americans in the age range for military service. In fact, statistics from the Defense Manpower Data Center (2011) show that 1% of the population of the United States is on active duty status in the United States military. This, in turn, means fewer families are affected by ongoing military engagements.

For the recently returned veteran, alienation may prove to be a familiar feeling when entering a HEE. Mann (2001) defined seven perspectives of alienation relative to the experience of students entering a HEE. These seven perspectives are:

1. Alienation as a result of the post-modern focus on utilitarianism, functionality and competence.
2. Alienation as a result of the ways in which academic discourse constructs student identity.
3. Alienation as a result of the experience of being an 'outsider' in the academic world.
4. Alienation as a result of a context which requires compliancy rather than creativity.
5. Alienation as a result of disempowering assessment practices.
6. Alienation as a result of assessment practices which impose power and docility by means of examinations, learning journals, learning contracts, etc.
7. Alienation as a strategy for self-preservation, to avoid engagement with the risk taking that learning entails.

Although all perspectives may be useful for examining the veteran experience in a HEE, it is possible the "outsider" perspective and resulting feelings of alienation are particularly salient for many veterans. In fact, building upon the work of Mann (2001), Case (2008) states:

> Not only do students experience alienation from the academy (University), but ironically many 'non-traditional' students also experience a degree of

> alienation from their own background culture, resulting in the occupation of a kind of 'no-man's land'. (p. 327)

This sentiment may prove particularly meaningful in regard to the veteran student experience given that soldiers have been assimilated into the unique culture of the military. Baumann (2009), cited in Elliott et al. (2011), suggests the values of a HEE, including structuring one's own schedule, being one's own boss, and challenging authority are 'antithetical' to military values (e.g., toughness, mission focus, and self- and group-based sufficiency) (Dickstein, 2010). The veteran student may have internalized these values only to be forced to adjust to a new environment which may not place value on the same ideals. Furthermore, Lewis (2011) suggests the cultural gap between the military and civilian worlds is leading to the creation of a "warrior class" where military professionals see themselves as different and incompatible with the remainder of society. Many veteran students have spoken to a sense of alienation they feel upon beginning classes, and allude to feeling confused and overwhelmed with the process. Further aggravating these feelings, some veterans report being unsure of where to turn to for assistance (Baumann, 2009; O'Herrin, 2011). To illustrate, a Time Magazine article by Mark Thompson (2011) quoted a Marine veteran discussing his feelings of alienation by stating:

> The gap between the military and everybody else is getting worse because people don't know—and don't want to know—what you've been through. There are no tax hikes. There are no food drives or rubber drives (in World War II civilians were asked to contribute rubber and

> other materials for the war effort)…It's hard not to think of my war experience as a bizarre camping trip that no one else went on. (p. 35)

Review of relevant literature, the vast majority of which is qualitative in nature, has been informative in that it appears alienation as a construct takes a tripartite organization: (1) alienation due to new roles and environment outside of class, (2) alienation due to interaction with faculty and staff, and (3) alienation due to fitting in with students in the general college population.

Alienation Due to New Roles/Environment. Recent research suggests that one of the challenges to veteran students includes fitting in with students who tend to be younger, are less respectful of authority, ignorant of what military service entails, and critical of the conflicts in which veterans have fought (Elliott, Gonzalez, & Larsen, 2011). With particular regard to National Guard or Reserve veterans, Rumann and Hambrick (2009) stated the following:

> Student veterans often face complicated situations—such as working through confusing or perplexing expectations in regard to personal and social roles; resolving unpredictable disruptions of their good standing with respect to eligibility for services or financial assistance; negotiating, ending, or initiating personal relationships; locating or creating comfortable and supportive environments; or resuming their life as a student—frequently with greater seriousness of purpose than the student population at large. (p. 30)

Information gathered from a qualitative study indicated some veterans may have difficulty moving from an environment where activities are heavily scheduled to one

where they must make their own class schedules, social schedules, and work schedules. In this study, a four-year Air Force veteran said that going from "something that is so structured and so routine, and on task . . . then just to be released and you have to make your own schedule, some people find that hard" (Ackerman, DiRamio, & Mitchell, 2009, p. 28). Similarly during the course of an interview for a qualitative study by Baumann (2009), a Marine reservist who had been activated recounted her experience:

> It wasn't easy, going from a student to an NCO (non-commissioned officer) and from an NCO back to a student. As a student, you're supposed to question everything you're told. . . . You're supposed to always think outside the box, challenge rhetoric and plans made by authority. As a Marine, you are supposed to accept orders without question . . . no matter how little they make sense. The roles and rules of a student are very different than those of a Marine. . . . There's very little overlap. (p.18)

Veterans face external social adjustment when starting classes in a HEE. Many of the relationships they have forged with other service members may dissolve due to geographical distance. The sense of camaraderie and esprit de corps the veteran may have gained through combat service and shared experiences with members of their unit may simply dissipate once the veteran separates from the military. In discussing this issue, Church (2009) states:

> Combatants share mutual experiences that bind them together and develop a mutual sense of trust that extends beyond the battlefield. This sense of camaraderie can be effectively utilized by campuses to enable

> veterans' success as they transition from combat to colleges and universities. (p. 64)

Certainly in an ideal situation this joining together of veterans to unite on college campuses across the nation in order to support one another in transition would prove useful; however, not every college boasts a veterans group, or the group on campus may not provide the same quality and depth of relationship that the veteran experienced with members of his/her combat unit. A former Marine who served in Iraq and participated in a study conducted by Ackerman et al. (2009) stated the following:

> People who I would consider my best friends here still cannot relate to me on certain levels as far as the experiences I've had. You just can't relate unless you have been there. Those people have. Those relationships are still very strong and very important. (p. 11)

Even in cases where a university has put forth major efforts to recognize veterans on campus, awareness and participation may be limited. To illustrate, a study conducted at St. Cloud State University (Minnesota) found 58% of the veteran students surveyed had not visited the veterans' resource center on campus and 66% of those surveyed did not know an organization for veterans existed on their college campus (Lokken, Pfeffer, McAuley, & Strong, 2009).

As previously mentioned, it is possible that students who are reservists may have to withdraw from their classes upon deployment. In this case, existing relationships with classmates may be compromised, as those classmates may have graduated or moved on from college by the time the student returns. Baumann (2009) discusses the situation of a nursing student who was deployed to Iraq. During the course of her deployment, her

class stayed in contact with her, and even included her (ceremoniously) in the presentation of their nursing pins. However, once she returned from Iraq and began taking classes again, her former classmates had graduated. She expressed her feelings on the matter during an interview for the study:

> I didn't want to have to face all that. I didn't want to face going back to school and nobody being there. I didn't want to face filing for unemployment because I no longer had a job. Or I no longer had a purpose. It took me a while. Even a couple of months ago, around spring break, I was feeling really down in the dumps because I feel worthless here. I was, like, what's the point of this? Will I ever get the gratification of helping people as a nurse as I did while I was gone [in Iraq]? (p. 20)

In addition to the changes in the social environment, many veteran students may be learning to cope with physical and/or psychological conditions as a result of their time in service. Veterans may not be motivated to disclose any medical conditions to the disability services office located on campus, perhaps in an attempt to blend in and not draw attention to themselves (Shackelford, 2009). Even when the students do take the time and effort required to self-identify to the disability services office, they may still face obstacles in their daily attendance of classes. In one report given by Branker (2009), a female Army veteran who started classes at a university described how her mobility impairments as a result of an improvised explosives attack had affected her. The veteran stated she had gone through extensive therapy in order to walk again, including being fitted with over 20 prosthetic devices. She stated although she was now able to walk to class, she had to exert an amount of effort to do so that left her exhausted

and "barely able to concentrate (p. 3)" on the lecture being given in class. Another account of a similar issue given by Shackelford (2009) tells of a former Special Forces soldier who was the sole survivor of an attack on his unit in Iraq. The muscle in one of his legs was damaged by shrapnel and the veteran had difficulty walking to class. The veteran refused to use a cane or take pain medication for fear of becoming addicted and as a result had to stop several times on his way to class. He refused to use a special parking permit until the disability services official on campus assured him the parking tag was removable and that he did not have to use it at all times.

Alienation Due to Interaction with Faculty/Staff. After review of relevant literature, there appears to be three sub-categories of this theme: (1) lack of shared experience of veterans' issues on the part of the faculty/staff, (2) interactions wherein the faculty member appears to be genuinely interested in the veteran's experience but asks the veteran for inappropriate self-disclosure or presents inappropriate material for the class, and (3) outright hostility on the part of the faculty member directed at the veteran student. These interactions appear to exist on a continuum of intent, with lack of shared experiences or awareness of veterans' issues being the most benign and unintentional to hostile confrontation or labeling being the most damaging. The middle of this continuum includes interactions with faculty wherein there appears to be a harmless intent on behalf of the faculty member (e.g., by asking the veteran to share their experiences with the class). Classroom material is included in this mid-point on the continuum, as there may be material such as readings or movies that may provoke a reaction from the veteran which the faculty member had not intended.

Alienation Due to a Lack of Shared Experiences/Awareness of Veterans' Issues. Related to the low number of active duty service members relative to the overall population, it has been speculated that an additional alienating aspect of modern day university life is that there are fewer faculty and, ergo, mentors and advisers who have experienced military life in a combat environment (Rumann & Hamrick, 2009). In the past, particularly after World War II, colleges were encouraged to appoint advisors and mentors drawn from the faculty who had past military experience (Washton, 1945, cited in Rumann & Hambrick, 2009). During the Vietnam War it was common for college men to obtain educational deferments to permit continued enrollment in graduate school and advanced degree programs. This may contribute to the current makeup of administration at many U.S. institutions of higher learning, in which there are few professors with military experience. The same authors extend this thought by stating that not having trusted mentors and/or advisors who are familiar with their experiences can be alienating to veterans as they may not feel understood or validated, regardless of how much the faculty members or administration wish to be helpful. This sentiment is mirrored in research conducted by Persky and Oliver (2011) which found, through focus groups of veteran students, that "college staff attempted to be helpful, but staff members often were not sufficiently knowledgeable concerning veteran related issues and benefits" (p. 117).

Alienation Due to Requests for Inappropriate Disclosure/Class Material. Rumann and Hamrick (2009) described interactions between professors and veteran students wherein the professors would request the student disclose information about their time in combat and also regard the student as a spokesperson for all veterans. The

authors equate this type of request from the faculty member to the "marginalizing dynamic (p. 30)" of asking African-American students to disclose their experiences, and to also serve as an authoritative spokesperson for all African Americans. Persky and Oliver (2011) suggest that the time may be near for employee training for specific veterans' issues. To illustrate, the participants in their research stated that veterans are a "forgotten minority" and that "treating any other group of students the way veterans are treated would result in equal opportunity issues" (p. 117).

In research conducted by Elliot, Gonzalez and Larsen (2011), a Marine veteran reported having to leave the classroom when the instructor showed a movie focused on terrorism in the Middle East. The veteran stated that "I had to walk out of class because I was literally one block away from where some of the footage [of Marines being shot at] was taken" (p. 287).

Alienation Due to Hostility. Multiple qualitative studies have reported faculty taking an adversarial stance with veteran students (Elliott et al., 2011; Herrmann & Raybeck, 2008; Persky & Oliver, 2011). Facing an already unfamiliar environment with little support may prove daunting, but facing outright hostility from a faculty member could prove overwhelming. In an incident reported in research conducted by Ackermann et al. (2009), a sociology professor "referred to the American soldier as a terrorist (p. 11)" in a class where a combat veteran was a student. In protest, the veteran did not complete the final exam and failed the course. In one study (Elliott et al., 2011), a participant who had served in Iraq as a soldier stated he was outraged by a professor who referred to U.S. troops as "babykillers" and "torturers (p. 287)" The veteran stated the following:

> The biggest problem with some faculty is their willingness to disregard teaching and embrace hateful soapbox political speech. Veterans are the only group of people on the campus that are openly slandered, disrespected, and hated. Most professors would claim to embrace diversity among the student population, but some would like to exclude veterans from the multiplicity due to our war service. (p. 287)

The same student stated that he believed in free speech, but wished that he "did not have to feel out of place on [his] college campus and was not slandered in the classroom" (Elliot et al., 2011, p. 287).

Alienation Due to Difficulty Fitting in with General Student Population. Fellow classmates may also purposefully or inadvertently contribute to feelings of isolation and alienation. Ackerman et al. (2009) conducted qualitative research on veterans of the GWOT regarding their experience of adjusting to a HEE. One participant, a former Marine, reported he was called a traitor by one of his fellow students when he voiced opposition to the war in Afghanistan, a place where the former Marine had served. Participants in a phenomenological investigation by Shaw and Hector (2011) listed the category *misconception of the public* as a major concern of veterans returning from an overseas deployment. The participants in the investigation stated they felt unfairly portrayed by the media as being more violent and aggressive than they were in reality. One participant stated "That's a misconception the public has is, everybody is over there day to day pulling out bayonets, firing and shooting. But, most people did not fire their weapon" (p. 132). Perhaps more damaging are personal questions posed by classmates such as "Did you kill anyone?" (Ackerman et al., 2009).

Possible repercussions for veteran students who experience a lack of social support and alienation may include the development of full-criteria PTSD. There have been multiple studies reporting a correlation between a lack of social support and PTSD among Vietnam veterans (Barrett & Mizes, 1988; Brewin et al., 2000; Fontana & Rosencheck, 1994; King et al., 1999; Laffaye et al., 2008; Schurr et al., 2004). These studies suggest that a lack of social support is a contributing factor for the development of PTSD. Laffaye et al. (2008) suggest negative social factors such as friction and negative social reactions to trauma disclosure are more predictive of PTSD than positive social factors, such as emotional support and instrumental support. With regard to a HEE, wherein the veteran student could be subject to feelings of isolation and alienation, this could theoretically result in the development or aggravation of post-traumatic symptoms.

Post-traumatic Stress Disorder (PTSD)

Review of relevant literature finds there is an abundance of evidence supporting the notion that veterans of current and recent conflicts are more susceptible to PTSD than the general public. One of the most widely reported psychological conditions among veterans of combat is post-traumatic stress disorder. The history of PTSD and the stigma associated with it is a long one. During World War II, 671,000 men received nonfatal combat injuries between January 1942 and June of 1945. During the same time frame there were approximately 1,000,000 hospital admissions, 1,750,000 Selective Service rejections, and 457,000 discharges for "neuropsychiatric disorders" (Jarvis, 2009). It was also during World War II that General George Patton slapped two

soldiers who were hospitalized for neuropsychiatric symptoms who were recuperating in Sicily, stating they should be out of bed and fighting (Jarvis, 2009). The Vietnam conflict produced rates of PTSD in service-members that were reported to be 30.9% lifetime prevalence and 15.2% prevalence in 1988, approximately 15 years after the end of hostilities in Vietnam (Dohrenwend, 2007). There has been some controversy over this robust prevalence of PTSD in Vietnam veterans (Dohrenwend et al., 2007); however, it was reported that, since 1999, there has been a "dramatic" increase of claims related to PTSD (Smith-Osborne, 2009). This would suggest not only are veterans of the GWOT filing compensation claims related to PTSD, but also that veterans of earlier conflicts may be filing for compensation late in their lives, suggesting a more insidious, chronic form of PTSD may be affecting veterans later in their lives.

As of 2007, more than 50,000 service members had been diagnosed with combat related PTSD as a result of their service in either Iraq or Afghanistan (DiRamio, 2010). In a study conducted in 2005, data were collected from 4,089 soldiers who had been deployed in support of either Operation Iraqi Freedom (OIF) or Operation Enduring Freedom (OEF) (LaPierre et al., 2007). Of those surveyed, 7% of OIF veterans (n = 147) and 6% (n = 112) of OEF veterans reported clinically significant levels of PTSD symptoms without depression. In addition, 13% of OIF veterans (n = 294) and 15% (n = 281) of OEF veterans reported clinically significant levels of depression without PTSD. Finally, 44% of both groups (OIF, n = 989, OEF, n = 789) reported clinically significant levels of symptoms consistent with depression, PTSD, or both (LaPierre et al., 2007). Although this was one study with one population, according to Rumann

(2010) there have been 710,418 Reserve or National Guard service members activated in support of the GWOT, without taking into account the total number of active duty service members in these areas of operation.

Madaus et al. (2009) predict that over two million veterans of the GWOT will enroll in postsecondary education. Of these two million veteran students, it is estimated that 20% will have symptoms that warrant a diagnosis of PTSD. Another study (Capeheart & Bass, 2012) found that of OIF/OEF veterans who presented for treatment at VA medical centers, the PTSD prevalence rate was between 13-21%. Interestingly, most recent branch of service is a possible indicator of which veterans are more likely to exhibit symptoms consistent with a diagnosis of PTSD. A 2009 study (Baker et al.) found that veterans of OEF/OIF who served in the Army or Marine Corps were twice as likely to meet criteria for PTSD.

An additional factor to consider along with PTSD is that of suicidality. A study published in October of 2010 (Bruce) cited statistics that OEF/OIF veterans were at a 33% greater chance of suicide. The study reported that "downstream" experiences, which occur once a member has separated from the military, are perhaps contributing factors to the increased suicidality of the post 9/11 veteran. Similarly, a study conducted by Martin, Ghahramanlou-Holloway, Lou, and Tucciarone (2009) found that one "protective factor" for post 9/11 veterans was social support and connectedness, which tend to diminish once soldiers separate from the military and begin a new phase of life as a college student. While perhaps not germane to this study, the high rate of suicide among veterans is certainly something to consider when discussing veteran

student adjustment as it does suggest that a sizeable percentage of veterans experience symptoms of severe intensity.

There is also some evidence supporting the notion that higher levels of post-traumatic stress symptoms result in lower performance on standardized tests (Rutkowski, Vasterling, Proctor, & Anderson, 2010), suggesting that veterans with higher levels of post-traumatic stress may have more difficulty accessing higher education as well as remaining in a higher education environment due to a decreased ability to perform academically. Additionally, a review of the research shows that symptoms of PTSD are likely to include a loss of pleasure and interest in activities and a sense of a foreshortened future (King, Leskin, King, & Weathers, 1998). It would be logical to infer that these symptoms would negatively impact the adjustment of a veteran student. Indeed, when discussing amotivation, Vallerand and Bissonnette (1992) state that persons with high levels of amotivation are likely to not perceive contingencies between their actions and outcomes, which would indicate a lowered sense of self-efficacy. This may, in turn, correlate highly with the loss of control veteran students experience with regard to some of the symptoms common to PTSD such as flashbacks or exaggerated startle response. Previous studies have cited evidence that PTSD symptoms negatively affect memory, with particular regard to the retrieval stage of memory processing (Buckley, Blanchard, & Neil, 2000).

Of additional interest is that evidence from some research suggests that the risk of developing PTSD may be linked to lower intellectual functioning, even when controlling for combat exposure (Dolan et al., 2012). This finding implies that those veterans who have PTSD and are now college students may be entering college with

lower levels of intellectual functioning, which may further compromise their ability to be successful in a higher education environment. Consistent with the Dolan et al. study, Vasterling et al. (2002) found in their research that veterans with PTSD completed fewer years of education prior to their service in Vietnam than veterans who did not have PTSD, which would seem to support the notion that those at greatest risk of PTSD may also have lower levels of intellectual functioning. Conversely, one could assume that higher pre-deployment intellectual functioning may provide greater protection from the development of PTSD, and may reflect reduced vulnerability to stress in general (Vasterling et al., 2002). These researchers have also suggested that persons who possess innately higher verbal intelligence may be capable of more effective processing of traumatic events, perhaps because they are better able to verbally communicate their needs to others and elicit social support.

With regard to within-group differences among veteran populations, specifically PTSD-positive and PTSD-benign veteran groups, there do appear to be differences. For example, Dolan et al. (2012) found that the PTSD-positive veteran group in their study showed a significantly greater degree of impairment in intellectual functioning and memory (in particular verbal memory versus visual memory), as well as in attention and executive functioning. Concerning attention, Vasterling et al. (2002) found that PTSD-diagnosed Vietnam veterans "exhibited a poorer overall hit rate on a continuous performance task than veterans without mental disorder diagnoses, suggesting that omission errors were primarily responsible for attentional performance deficiencies" (Vasterling et al., 2002, p. 10). This may be considered somewhat confounding, given that one of the hallmarks of PTSD is hyperarousal, which would lead one to ostensibly

suspect that errors of *commission* would be more prevalent in a sustained memory task. The authors theorize this apparent anomaly thusly- "…raises the possibility that PTSD-related arousal dysregulation may shift from a pattern of predominant hyperarousal to one of more generally disordered arousal and sustained attention as the disorder becomes more chronic" (Vasterling et al., 2002, p. 10). As previously cited, the study in question was published in 2002, while the Vietnam War ended in 1975, a difference of over 25 years. This finding is unique in that it presents the notion that the amount of time which passes between when a veteran is exposed to trauma and their entry into a higher education environment may significantly impact not only their capability to adjust, but also in what manner the impairment presents.

Another study (Marx, Brailey, Proctor, MacDonald, Graefe, Amorso, & Vasterling, 2009) compared two groups of soldiers, one group who had returned from Iraq a year prior and one group who had returned home more recently. The study found "no effect of PTSD on verbal memory, visual memory, or response time; and no effect of combat exposure, depression, head injury, or recent alcohol consumption on any of these tasks" (p. 997) with respect to the recently returned group of soldiers. They did, however, find a significant interaction between PTSD symptom severity and time on sustained attention. Based on their results, the authors stated, "more chronic PTSD symptoms exert a larger and potentially increasing influence on attentional impairment a year after deployment to Iraq compared to other factors that may influence neuropsychological functioning" (p. 1001).

Thus it appears fairly clear that PTSD as a result of combat experiences has a significant impact on verbal memory. To illustrate further, a meta-analysis that

compared groups of war veterans with PTSD, war veterans without PTSD, and survivors of physical and sexual abuse (Johnsen & Asbjornen, 2008) found the following:

> … that verbal memory impairment is present in adults with PTSD, and they are consistent across studies. Stronger effects were seen for war veterans compared to individuals exposed to sexual-and physical abuse. Marked impairment was found for verbal memory performance in patients with PTSD compared to healthy controls, while modest impairment was found in performance in patients relative to exposed non-PTSD controls. (p. 80)

Research by Marx, Doron-Lamarce, Proctor and Vasterling (2009) examining whether pre-deployment neuro-cognitive functioning predicted post-deployment PTSD symptoms found that worse performances on measures of immediate visual memory were the only pre-deployment variable that predicted higher levels of residualized PTSD symptoms. Based on their finding, the authors suggest that visual memory may serve as a protective factor due to an individual's ability to facilitate better memory consolidation and create the possibility for habituation to occur more rapidly in response to a traumatic event. As suggested by Dolan et al. (2012), the relationship between PTSD and neurocognitive functioning appears to be a zero-sum relationship, in that the presence and degree of one of those variables is negatively related to the presence and degree of the other.

Traumatic Brain Injury (TBI)

According to Marion (1999), the severity of a TBI can be measured on the Glascow Coma Scale (GCS). For clarification, the GCS covers 3 areas, eye, verbal, and motor responses. (Marion, 1999). The criteria for each are listed below:

Eye Response

1. No eye opening
2. Eye opening in response to stimulus
3. Eye opening in response to speech
4. Eye opening spontaneously

Verbal Response

1. No verbal response
2. Incomprehensible words (i.e., moaning or garbled speech)
3. Inappropriate words (random speech)
4. Confused (coherent responses but some confusion as to situation)
5. Oriented (appropriate to current time, situation, location, etc.)

Motor Response

1. No motor response
2. Extension to pain (upper limbs extended, "fencing" response)
3. Abnormal flexion to pain (upper limbs retracted and folded across body "mummy-like")
4. Flexion/withdrawal to pain (i.e., pulling hand away when pressure is being applied to nail bed)

5. Localizes to pain (purposeful movements towards source of pain)

A GCS score between 3 and 8 represents a severe TBI, a score of 9 to 12 a moderate TBI, and a score of 13 to 15 a mild TBI (Marion, 1999).

The classification of TBI that would be most likely to impact a veteran student's adjustment to college life would be Mild TBI (mTBI), as it is the most prevalent type of TBI encountered in OIF/OEF veterans (Nelson et al., 2011). Mild TBI is defined as a brief alteration of mental status (e.g., confusion, disorientation, loss of consciousness) for less than 30 minutes, and/or post-traumatic amnesia (loss of memory for events immediately before, during, or after an injury) for less than 24 hours following an impact to or forceful motion of the head [National Center for Injury Prevention and Control (NCIPC), 2003]. Mild TBIs are closed head injuries (also known as concussions) that are common in the general population (1-2%), but far more common (15%-20%) in veterans of the wars in Iraq and Afghanistan who have been deployed to combat zones (Dolan et al., 2012). Another study (Nelson et al., 2011) reported that as many as 300,000 OEF/OIF personnel may have sustained a combat-related concussion at some point during the current conflicts. In contrast, more severe (penetrative type) TBIs are far less common. Capehart and Bass (2008) reported that penetrative type TBIs accounted for 11% of 2898 hospital admissions of Army soldiers between September of 2001 through September of 2007.

Although it is difficult to ascertain possible differences between past conflicts and OIF/OEF with regard to rate of TBI incidents, one study (Capeheart & Bass, 2012) indicated that there is a significant difference, to wit "30% of OIF/OEF combat wounds involved the head and neck compared to 16 percent in the Vietnam War and 21 percent

in both the Korean War and World War II" (p. 790). This statistic is attributed at least in part to a couple of unique factors: (1) substantial increase in the use of improvised explosive devices (IEDs) and vehicle-borne IEDs (VBIEDs), which affect a mTBI or TBI via three mechanisms: blast, blunt impact, and fragment penetration; and (2) improved body armor designed specifically to reduce mortality rates due to pulmonary threshold injury (previously thought to be the main cause of death for blast injuries).

Granted, there is some difficulty in ascertaining the neuropsychological effect of mTBI, as it is complicated by the following issues: (a) a wide range in severity of mTBIs; (b) the variability in remission of cognitive symptoms; and (c) evidence suggesting that few individuals with mTBI are formally assessed with neuropsychological measures to quantify deficits because most mTBIs are treated in non-hospital medical settings or not at all (Dolan et al., 2012). Additionally, there are high rates of co-occurrence between mTBI and PTSD (Hoge et al., 2008) and the potential influence of post-secondary gain (Nelson, Hoelzle, McGuire, Gerrier-Auerbach, Charlesworth, & Sponheim, 2010). With regard to post-secondary gain, Nelson, et al. (2010) states the following:

> Service connection is established through the compensation and pension (CP) process, which is similar to an independent medical examination or other civilian disability assessment. The CP process involves a claim of disability attributed to service-related injury (e.g., concussion). Neuropsychological evaluations conducted in the CP context may determine whether an OEF/OIF veteran's claim of concussion is associated with cognitive limitations. (p. 714)

The issue of effort on neuropsychological measures would ostensibly affect those veterans (or active duty members that desire separation or medical retirement) who would stand to gain financially by adopting a "sick" role. Conversely, some service members may deny or minimize symptoms of mTBI due to a desire to remain with their unit. There may be difficulty in convincing troops who have been exposed to blasts and/or mild blunt head trauma to seek evaluation. Capehart and Bass (2012) suggested the following guidance:

> …selected other MOSs are associated with elevated head injury risk, including Armor (i.e., tank crew), Infantry in mechanized unit (i.e., tracked infantry fighting vehicle), any service in an Airborne unit, and any service in a Special Operations unit. Any reported blunt head injury event should lead to TBI evaluation, even if the veteran does not believe the injury led to a concussion or TBI. Further evaluation for possible TBI is recommended after blast exposure from any non-VBIED blasts that occurred closer than 30 feet, VBIED blasts within 100 yards should lead to a TBI evaluation…(p. 793)

With regard to neuropsychological impact due to mTBI, reductions in processing speed have been identified as the single greatest predictor of functioning following mTBI. Additionally, attention (concentration and divided attention), learning, and memory are the primary cognitive symptoms following concussion (APA, 2000).

Citing the need for different educational strategies for people who have sustained a TBI, Arroyos-Jurado, Paulsen, Ehly and Max (2006) propose the need for teaching structured learning strategies that concentrate on improving encoding, such as

verbal rehearsal. The authors contend that the severity of TBI is the single greatest predictor of future performance on non-verbal tests, as verbal IQ is more resistant to TBI due to the nature of learning (i.e., rote) and that the effect of TBI on learning can be mitigated to some degree by focusing on what would ostensibly be the remaining area of strength (or at least the area of non-weakness) in persons with TBI. Additional research (MacLennan & MacLennan, 2008) states the following:

> Successful navigation through an academic program requires the ability to set goals and priorities and to manage conflicting time demands related to classes,
>
> work, and socializing; skills that are often significantly compromised by executive functions impairment. TBI may also result in behavioral changes that can adversely affect the ability to return to school. For example, problems with diminished initiation may result in failure to complete assignments despite the fact that the student with TBI may be able to remember when those assignments are due. On the other hand, impulsivity may cause the student with TBI to suddenly abandon a tedious but prudent plan (e.g., writing an assigned
>
> paper) in favor of a more enjoyable but ultimately less productive plan (e.g., going to the beach). (p. 524)

Other research raises the question of how traditional approaches to assisting students with a TBI may not be the best way to help them. MacLennan and MacLennan (2008) state the following regarding counseling interventions with clients with a TBI:

> …However, there are problems associated with this approach. Frontal lobe damage associated with TBI often results in diminished awareness of impairments that may compromise an individual's ability to benefit from such counseling. In addition, results of neuropsychological testing may not always predict an individual's functional performance on complex everyday activities. (p. 522)

One confounding issue in terms of TBI and neurocognitive performance (and possible effect on academic adjustment) is that multiple studies (Armistead-Jehle, 2010; Nelson et al., 2010; Whitney et al., 2009) have brought into question the amount of effort that veterans with TBI put forth on neuropsychological measures. Specifically, one study found that 84.1% of veterans with mTBI tested in a forensic setting demonstrated insufficient effort on at least one of three indicators, compared to 10.7% insufficient effort rate of veterans tested for research purposes (Dolan et al., 2012). Another study (Nelson et al., 2010) found that effort (or lack thereof) accounted for 20-33% of the variance in cognitive testing (veterans in a forensic setting) compared to 1-8% of the variance in testing in a research participant group. This complicates the diagnosis of TBI, as there is some difficulty ascertaining the veracity of what actually constitutes symptoms of TBI, data that may result from attempts at secondary gain (such as financial compensation via disability rating), and symptoms that are the result of a co-morbid presence of TBI and PTSD (Dolan et al., 2012). It is also possible that the level of psychological distress (which may be a function of the referral reason) may impact a person's ability to respond to neuropsychological measures (i.e., if the person is concerned about possible financial impact based on the testing, such as being

awarded disability or being able to remain in the military). Dolan et al. (2012) suggest that standardized neuropsychological tests may not be sensitive enough to detect subtle reductions in cognitive functioning, which may contribute to distress that effects the person's ability to test. Even if there is a minute change that is not sufficiently significant for current testing to perceive, the person may notice this and experience a negative emotion (such as anger or anxiety), thus impairing his/her ability to perform tasks above and beyond what the actual change in functioning would constitute. Interviews with students that have returned to college after sustaining a TBI (i.e., were in college at the time they were injured) report that they perceive college to be more difficult, and reported reducing their course load, changing types of courses taken, and altering their overall educational and vocational objectives (MacLennan & MacLennan, 2008).

Co-Occurring TBI and PTSD

There is evidence to show that TBI and PTSD do overlap significantly. Hoge et al. (2008) found that over 40% of Infantry soldiers who had lost consciousness and 27% of troops who had experienced altered consciousness as a result of experiences on deployment, reported symptoms consistent with PTSD (incidentally, 5% of the overall sample met criteria for both TBI and PTSD). Another report (Tanierlian & Jaycox, 2008) found that roughly one-third of veterans who reported a TBI also reported some symptoms of PTSD. This should not be particularly surprising, since one event (i.e., an event that would cause loss or alteration of consciousness as a result of trauma to the head) can be the genesis of both conditions. As stated by Capehart and Bass (2012), "The risk for PTSD will include surviving an explosion, witnessing wounds or fatalities

among other survivors, or being hospitalized with a serious medical problem caused by the explosion (e.g., severe burns, adult respiratory distress syndrome)" (p. 795). With regard to both OIF/OEF, the threat of head trauma, particularly from improvised explosive devices (IEDs), has led to greater scrutiny from mental health clinicians concerning co-occurring PTSD and TBI, particularly mTBI (Capeheart & Bass, 2012). One study that did not use a no-diagnosis comparison group (Brenner, Ladley-O'Brian, Harwood, Filley, Kelly & Homaifar, 2009) found no between group differences when comparing a PTSD-only group and a group with co-occurring PTSD and mTBI on measures of processing speed, inhibition, abstract concept formation, set shifting and maintenance, immediate memory, delayed recall, visual search, tracking, sustained memory, delayed recall, visual search, tracking, sustained attention, and working memory. Also, the medical literature does not clearly indicate whether cognitive changes post-deployment are best explained by either psychiatric diagnosis or TBI (Capeheart & Bass, 2012).

Grit

In 1907, William James encouraged psychologists to address two broad problems: First, what are the types of human abilities and, second, by what diverse means do individuals unleash these abilities (Duckworth, Peterson, Matthews, & Kelly, 2007). Grit is defined as perseverance for long-terms goals and entails working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress (Duckworth et al., 2007). Grit is a variant of courage and indeed may be considered a form of courage. People strong in grit are unchanging in their pursuit of goals and approach achievement as a marathon requiring

stamina (Maddi et al., 2012). Grit has been used to study the performance of cadets at the American Military Academy located in West Point, in particular the retention of cadets after their first year of training. In a study conducted by Maddi et al. (2012), 137 cadets out of an original 1251 were separated for a variety of reasons, including motivational concerns, academic or medical problems, and other miscellaneous reasons. In particular, this study examined the effect of grit, hardiness, and the Whole Candidate Score (WCS). Maddi et al. (2012) defined hardiness as "a personality characteristic involving courage, related to adaptability and performance under stress…which is a pattern of attitudes and skills that provides the existential form of courage and motivation need for learning under stressful circumstances" (p. 21). The WCS was included in the study as a measure of past performance and is a composite score of high school academic performance (e.g., grade point average, high school rank, and SAT scores), leadership potential (involvement in leadership roles such as school officers, scouting programs, debate, and faculty appraisals), and physical fitness (performance on standardized physical exercises). The study used logistic regression analysis to determine which variable was most predictive of cadet retention and found that grit was the "most important" (p. 24) variable with regard to retention, and that cadets who were retained were twice as likely to have higher grit scores than those cadets who were separated (Maddi et al., 2012). These findings would suggest the level of grit an individual possesses may predict above and beyond what their past performance has demonstrated.

As military training puts an emphasis on future achievement (i.e., completing basic training, becoming proficient in a technical field, etc.), and by virtue of military

contracts being years in terms of length, it is feasible to expect that grit is a trait found in persons who serve or have served previously in the military.

Based on a review of relevant literature, the following research questions were proposed to guide this study: (1) Does the level of perceived alienation vary among traditional college students, non-traditional (non-veteran) students, and veteran students? (2) Does level of grit vary among traditional college students, non-traditional (non-veteran) students, and veteran students? (3) Does level of intrinsic motivation vary among traditional college students, non-traditional (non-veteran) students, and veteran students? (4) To what degree do post-traumatic stress, symptoms of TBI/ mTBI, and perceived alienation contribute to amotivation in veteran students? and (5) To what degree do post-traumatic symptoms, TBI/mTBI, perceived alientation, and grit contribute to intrinsic motivation in veteran students?

More specifically, the following hypotheses are proposed:

1. Veteran students will report significantly higher scores than traditional students and non-traditional/non-veteran status students on measures of perceived alienation, grit, and intrinsic motivation.
2. For veteran students, post-traumatic stress, TBI/ mTBI symptoms, and perceived alienation will predict significant variance in amotivation.
3. Post-traumatic stress symptoms, TBI/mTBI symptoms, perceived alienation, and level of grit will predict significant variance in intrinsic motivation in veteran students, with level of grit contributing additional significant unique variance to intrinsic motivation.

Chapter Three

Method

Participants

A total of 153 persons responded to the survey. Fifty-seven met the criteria for "traditional" students defined by Horn and Carroll (1996) as a student who (a) has not delayed enrollment in college following high school graduation, (b) is a full time student the entire academic year, (c) works less than 35 hours per week while enrolled in college, (d) is considered financially dependent under financial aid qualifications, and (e) is not a single parent. Thirty-six met the criteria for non-traditional students defined by Horn and Carroll (1996) as a student who (a) has delayed enrollment in college following high school graduation, (b) is not a full time student the entire year, (c) works more than 35 hours per week while enrolled in college, (d) is not considered financially dependent under financial aid qualifications, and (e) is a single parent. The third subgroup was comprised of veteran students (n = 60) who had served at least 3 months or more on active duty (excluding active duty for training purposes only).

As for race/ethnicity and age starting higher education of the sample (Table 1), the majority of the participants were White/Caucasian. In fact all three groups (traditional, non-traditional/non-veteran, and veteran) reported membership in excess of 70%. However, both the traditional and veteran group respondents self-identified as White/Caucasian in excess of 80% (80.7% and 81.2% respectively). The 72% of the non-traditional/non-veteran group respondents self-identified as White/Caucasian.

Non-traditional/non-veteran students were more likely to self identify as Asian/Pacific Islander (8.3%), Black of African American (8.3%), and Hispanic American (8.3%), whereas the veteran student group reported the highest percent of respondents that identified as American Indian (5.4%). With regard to age, all members of the traditional group who did respond (94.7%) indicated that they were between the ages of 18 and 20. The average start age for both non-traditional and veteran group members were very similar (44.4% of non-traditional and veteran group members started college between 18 and 20, while 51.7% of non-traditional students and 51.7% of veteran students started college after the age of 20).

Veteran students reported the highest percentage of lower income prior to college (22% vs. 12.4% overall). Non-traditional/non-veteran students reported the highest percentage of incomes less than $40,000 (41.6% vs. 32% overall). Traditional students reported the highest frequency of income greater than $80,000 (40.8% vs. 28.75% overall), whereas veteran students reported the lowest percentage in this demographic (16.7%). In other words, traditional students were more likely to report higher incomes prior to college than other groups in the study. Veteran students were most likely to report the lowest income prior to starting college. This is likely due to traditional students reporting their family of origin income (i.e. the household they lived in the year prior to coming to college). Table 2 shows income demographic results.

The veteran student sample was overwhelmingly affiliated with the Army in some context. The highest percentages of respondents were Army National Guard (68.3%) and active duty Army (41.7%). The next highest representation by branch of

armed forces was the Air Force (15%) followed by Marines and Reserve affiliated respondents (8.3% each). Respondents affiliated with the Navy represented the smallest number of the sample (5%).

When queried regarding whether they had been deployed to an imminent danger area, 66% of the respondents stated that they had. In addition, there were more responses to the query of which branch or branches the veteran student had served in (i.e., a total of 88 responses from a sample of 60 veteran students). The most likely cause of this aberration is that some of the students who were formerly active duty were reservists with either a guard or reserve component at the time of this study. Additionally, the respondents may have originally been Reserve or Guard members who were activated from a reserve to active status and responded to the items by endorsing that they had been in both the active and reserve components. For example, if a person enlists in the Army National Guard, attends basic training and advanced individual training (AIT) and then drills with their unit, they would not meet full criteria as a "veteran" for the purposes of this study.

The question "My main motivation for attending college is to collect the money the GI Bill pays each month" was used to assess motivation for attending school. Out of 60 respondents, 54 (90%) responded with "false", five (8.3%) responded "true", and one respondent declined to answer.

Measures

Demographic Information. Information collected from the target "traditional student" group included age, the time between high school graduation and the onset of attending college (regardless of whether the current institution was their starting point,

in the case of transfer students), student status for the past academic year (e.g., full time, three quarter time, half time, etc.), hours worked per week over the course of the last year, financial aid eligibility/dependence status, and whether the student was a single parent raising a child (or children). Additionally, respondents were asked to identify the level of income from their family of origin (if they came to college directly from home, as in the case of traditional students) or their income the preceding year (if they were their own primary source of financial support). Information collected from veteran student respondents included age, length of time spent on active duty, number of deployments, and branch of service.

Attitudes Toward Veteran Students. The traditional and non-traditional (non-veteran) student groups were asked the following questions in order to ascertain attitudes towards veteran students (to be answered using a 5-point Likert-type scale with the choices 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree):

1. I feel that students who are veterans are more prone to violence than other students
2. I believe that if somebody enlisted after 2001, they knew what they were getting into and deserve whatever happened to them.
3. Veteran students have an unfair advantage due to the educational benefits they receive from the government, when compared to normal students.
4. The American military protects our freedom as citizens of this country.
5. I have trouble trusting another student if I know he or she have served in the military.

6. Veterans of the Global War on Terror make me uncomfortable when I am around them.

Veteran Students' Perceptions of Academic Alienation. In addition to these measures, the veteran student group was asked to respond to the following questions (from Elliot, Gonzalez & Larsen, 2011) using the same five-point Likert-type scale mentioned previously:

1. I sometimes feel like I do not fit in with other students.

2. When I hear my teachers talking about U.S. military operations I feel unfairly judged.

3. I sometimes feel like I am looked down upon because I am a veteran.

4. I do not like it when people I meet (at the university) want to know the details of my military experience.

12-item Grit Scale. Grit has been defined as "perseverance and passion for long-term goals" (Duckworth et al., 2007, p. 1087). The 12-Item Grit Scale consists of twelve statements to which the participant responds based on the degree to which they identify with the statement as being consistent with their beliefs. The 12-Item Grit Scale is administered using a five-point, forced-choice, Likert-type scale. There is no "neutral" option to ensure each respondent either agrees or disagrees with the statement to some extent. Response choices are: "Very much like me", "Mostly like me", "Somewhat like me", "Not much like me", and "Not like me at all" (Duckworth et al., 2007). Data reduction for the 12-Item Grit Scale involves summation of the scores from the 12 items, then dividing the sum by the number of items to obtain an overall score between one and five, with five being extremely gritty and one being not at all gritty (Duckworth et al.,

2007). Sample items include "Setbacks don't discourage me", "I have been obsessed with a certain idea or project for a short time but later lost interest" (reverse scored), and "I finish whatever I begin."

During development of this instrument, Duckworth et al. (2007) began with 27 items and administered the developmental scale online to 1,545 participants aged 25 or older (M = 45 years). After eliminating 10 items due to issues with item-total correlations, internal reliability coefficients, and simplicity of vocabulary, the remaining 17 items were used to conduct an exploratory factor analysis on half of the participants (n = 772) chosen at random. The authors then sought to retain five or more items with loadings of at least .40 yielding internally consistent factors which made psychological sense and best approximated simple structure (Duckworth et al., 2007). A two-factor oblique solution with promax rotation satisfied these criteria, and yielded the following two factors: Consistency of Interest (6 items) and Perseverance of Effort (6 items). Confirmatory factor analysis was then performed and supported the two-factor solution (comparative fit index = .83 and root-mean-square error of approximation = .11) (Duckworth et al., 2007). The resulting scale demonstrated high internal consistency (α = .85) for the overall scale and for each factor (Consistency of Interests, α = .84; Perseverance of Effort α = .78). The Cronbach's alpha for this study was .83. Subsequent to this study, research was conducted by Duckworth et al., (2007) in order to discern if grit predicted additional variance in educational attainment beyond the Big Five personality traits (conscientiousness, extraversion, neuroticism, agreeableness, and openness to experience) and to determine if persons with higher grit were less likely to make career changes over the course of their lives. Participants (N = 690) in this study

completed the Big Five Inventory (BFI; John & Srivastava, 1999) and the 12-Item Grit Scale. Grit was found to be most related to Conscientiousness (r = .77, p < .001), more so than Neuroticism (r = -.38, p < .001), Agreeableness (r = .24, p < .001), Extraversion (r = .22, p < .001), and Openness to Experience (r = .14, p < .001). Consistent with predictions, the study found that the incremental predictive validity for educational attainment over and beyond the Big Five traits was supported, $F(3, 653) = 11.48$, p <.001, η_p^2 = .04 (Duckworth et al., 2007). As this measure is somewhat brief in nature, it was included in its entirety for this study, however it was included as a total score, not tallied as individual factors. This was done to ensure that the overall phenomenon of "Grit" remained encapsulated, as the scale does provide for an measure of definitive grit as a whole, staondalone variable, and not the differing dimensions of grit. Essentially, this research sought to examine the differences in groups of whole grit.

University Alienation Scale. The University Alienation Scale was developed by "rewriting selected items from earlier context-free alienation scales so as to include the university as the referent, and by formulating original items based on the theoretical delineation of the components of interest" (Burbach, 1972, p. 267). The scale consists of 27 items using a response set of a five-point agree-disagree Likert-type continuum to which respondents are asked to indicate the degree of agreement or disagreement with each statement (Burbach, 1972). The scale uses a three-factor model comprised of the components of Powerlessness, Meaninglessness, and Social Estrangement (Burbach, 1972). Sample items include "The administration has too much control over my life at this university" (Powerlessness), "I don't have as many friends as I would like at this university" (Social Estrangement), and "I can't seem to make much sense out of my

university experience" (Meaninglessness). The development of the scale used data from 356 respondents, all of whom were freshmen in an urban university located in the northeast region of the United States (Burbach, 1972). After performing factor analysis and correcting by the Spearman-Brown prophecy formula, the split-half reliability coefficients for Powerlessness, Meaninglessness, and Social Estrangement were $\alpha = .79$, $\alpha = .89$, and $\alpha = .72$ respectively (Burbach, 1972). Additionally, the reliability for the total scale was $\alpha = .92$ (Burbach, 1972). The current study found an internal consistency of $\alpha = .94$. Inter-item correlations ranged from .22 to .63 with an average *r* of .48. As with the Grit Scale, this instrument was used for total score and not broken down with regard to the individual model(s), in order to best gain a whole perspective of alienation as it applied to the different groups.

Academic Motivation Scale-28 (AMS-28). In order to ascertain the level of amotivation and intrinsic motivation reported by respondents, the Academic Motivation Scale (AMS) (Vallerand et al., 1992) was used. The AMS-28 is a 28-item self-report instrument designed to measure motivation across intrinsic and extrinsic constructs, but also includes the concept of amotivation based on Self-Determination Theory (Deci & Ryan, 1985). The AMS-28 was adapted from a measure published in French and normed on French Canadian university students (Vallerand et al., 1992). The AMS-28 was administered to 745 English-speaking university students in order to account for any language and/or cultural differences. The AMS-28 was then subjected to confirmatory factor analysis, yielding a seven-factor structure, in keeping with the results of the original measure. The factors are arranged as follows: Intrinsic (To Know, Toward Accomplishment, To Experience Stimulation), Extrinsic (Identified, Introjected, External

Regulation), and Amotivation (no categories). The subscales demonstrated adequate reliability typically in the .80s, with the exception of the Identification subscale which yielded a value of $r = .62$. Overall, the AMS reported internal consistency of $\alpha = .81$ (Vallerand et al., 1992). Additionally, due to the nature of the instrument, as select items were used to measure certain variables (i.e., intrinsic motivation, extrinsic motivation, and amotivation), it was not possible to eliminate some questions while retaining others. The current study found an overall $r = .91$ for intrinsic motivation, and an overall $r = .86$ for amotivation.

HIT-6. The Headache Impact Test (HIT-6) is a brief, self-report measure used to ascertain the degree to which a respondent perceives their functioning to be affected by headaches, both migraine and other (Kosinski et al., 2003). Internal consistency, alternate forms, and test-retest reliability estimates of the HIT-6 were .89, .90, and .80 respectively (Kosinski et al., 2003). Due to the brevity of this measure, it was included in its entirety for the purposes of the study. The Cronbach's alpha for the HIT-6 in this study was .92.

Neurobehavioral Symptom Inventory (NBSI-R). The NSI is a 22-item self-report measure of post-concussive symptoms which respondents rate in terms of degree of symptom severity on a five-point scale ranging from zero (none; symptom is rarely ever present/not a problem at all) to four (very severe; symptom is almost always present/impairs performance at work, school, or home/individual probably cannot function without help) (King et al., 2012). Due to multiple measures being used for this study, the decision to use only items 4,5,6,7,8, and 9 (see Appendix K) was made. For this partial scale, Cronbach's alpha was $r = .72$. The logic behind this decision was two-

fold: (1) the items provided by other measures would capture some of the information asked by the NBSI-R, and (2) concern for respondent fatigue.

PTSD Checklist, Military Version. The PTSD Checklist, Military Version (PCL-M) (Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item self-report measure of the 17 DSM-IV symptoms of PTSD. The checklist utilizes a five-point Likert-type scale to solicit the respondent to answer how much they agree with each statement. It has been used in major post-deployment studies and has been validated in military samples (Adler, Bliese, McGurk, Hoge, & Castro, 2011). A study by Bliese, Wright, Adler, Cabrera, Castro, and Hoge (2008) found that by using a cutoff value of 30 to 34 the instrument maintained a high level of specificity (.90) and sensitivity (.70). The scale has demonstrated high internal consistency ($\alpha = .97$) and test-retest reliability ($r = .96$) (Clark & Beck, 2010). Internal consistency reliability of the PCL-M in this study was .95.

PTSD Checklist, Civilian Version. The PTSD Checklist, Civilian Version (PCL-C) is a version of the PCL-M used for civilian respondents in that it asks respondents to answer the same questions albeit not regarding a military situation (please see Appendices H and I for exact wording of the two versions). While ostensibly created for a military population, it has been found to be accurate and useful in diagnosing PTSD within a civilian primary care setting, with optimal sensitivity (>80%; minimizing false negatives) and specificity (>80%; minimizing false positives) within a civilian sample (Freedy et al., 2010). Cronbach's alpha for the PCL-C was .93.

Procedures

Data for this IRB-approved study was collected from students at a large, midwestern university. Participants comprising the traditional and non-traditional student groups were recruited by contacting professors of classes carrying a research participation requirement. Participants for the veteran student group were recruited by email via the Veterans Affairs Certifying Official on campus, who maintains an email registry of all students receiving educational benefits through the Department of Veterans Affairs. Additionally, members of the various ROTC programs (Air Force, Army, Navy and Marine Corps) at this institution were contacted to elicit participation. This was accomplished by approaching the respective service department commanders (or their representatives) and explaining the purpose of the research. As such, it is possible that veteran students were contacted more than once as some of the educational benefits ROTC students receive may be distributed by the VA office on campus.

As part of the informed consent process, respondents were notified that their participation was strictly voluntary and confidentiality of responses would be maintained. The traditional student group and non-traditional/non-veteran groups were administered copies of the demographic questionnaire, the 12-Item Grit Scale, the University Alienation Scale, the PCL-C, the HIT-6, selected items from the NBSI-R, and the questions on attitudes toward veterans. The veteran student group was administered the demographic questionnaire, 12-Item Grit Scale, University Alienation Scale, PCL-M, HIT-6, selected items from the NBSI-R and questions about how they believe they are perceived by non-veteran students, faculty, etc. The traditional and non-traditional student groups were offered an incentive in the form of credit for completion of a class

research requirement. For the veteran-student group, an incentive in the form of a donation in the amount of $5 (US) to the Wounded Warrior Foundation was offered for every fully completed survey. Additionally, because the veteran group was asked to recall effects of prior traumatic events, contact information to the Department of Veteran Affairs Crisis Hotline was included as part of the online informed consent process in order to reduce the potential risk of re-traumatization.

Chapter Four

Results

Preliminary Analyses

Veteran student respondents were queried for their responses to questions from Elliot, Gonzalez & Larsen (2011), which asked respondents to rate their feelings on a 5-point, Likert-type scale with 1 being "strongly disagree", 5 being "strongly agree", and 3 being "neutral." The highest reported mean was for the first question: "I sometimes feel like I do not fit in with other students" (M = 3.19, SD = 1.33). The smallest reported mean was for the third question: "I sometimes feel looked down upon because I am a veteran" (M = 2.67, SD = 1.35). According to Elliot, Gonzalez, and Larsen (2011), when asked the same questions in the same order, the sample of veteran students reported a mean of 2.56 with $\alpha = .67$ (N = 79). The current study found a mean of 2.88 with $\alpha = .81$ (n = 54).

In addition, traditional and non-traditional/non-veteran student groups were queried as to their attitudes towards veteran students on a 1 (strongly disagree) to 5 (strongly agree) Likert-type scale. For both groups, the item with the highest mean score was the first question: "I feel that students who are veterans are more prone to violence than other students" (traditional group M = 2.40, SD = .97; non-traditional/non-veteran group M = 2.15, SD = .91). For both groups the lowest reported mean was for the fifth question: "I have trouble trusting another student if I know he or she served in the military" (traditional group M = 1.28, SD = .57; non-traditional/non-veteran group M = 1.58, SD = .83). Overall mean for the traditional student group was 1.73, $\alpha = .69$; overall mean for the non-traditional/non-veteran group was 1.76, $\alpha = .72$.

An independent-samples t-test was performed in order to compare attitudes towards veteran students based on group membership (traditional vs. non-traditional/non-veteran). There was no significant difference in scores for traditional students (M = 10.40, SD = 2.92) and non-traditional/non-veteran students (M = 10.55, SD = 3.43; t = (84) = -.21, p = .83, two tailed).

Means, standard deviations, and intercorrelations for the variables of interest are shown in Tables 6, 7, and 8 for traditional, non-traditional, and veteran student groups respectively. The results for the traditional student group revealed significant positive relationships between level of Perceived Alienation and NBSI score and Amotivation (r = .38, r = .49, both at p < .01 respectively), PCL score and HIT-6 score, NBSI score, and Amotivation (r = .37, r = .39, and r = .38, all at p < .01), NBSI score, HIT-6 score, and Amotivation (r = .51, r = .35, both at p < .01), and one significant negative relationship between intrinsic motivation and Amotivation (r = -.44, p < .01).

For the non-traditional student group, results revealed significant positive relationships between PCL score and NBSI score (r = .61, p < .01), HIT-6, NBSI score, and Amotivation

(r = .62, r = .43, both at p < .01), NBSI score and Amotivation (r = .43, p < .01), and significant negative relationships between Grit score, Perceived Alienation score, and HIT 6 score (r = -.49, r = -.38, both at p < .01).

For the veteran student group, results revealed significant positive relationships between perceived alienation score, PCL score, HIT 6 score, NBSI score, and Amotivation score (r = .57, r = .62, r = .57 at p < .01, Amotivation r = .34, p = .05), PCL score, HIT 6, NBSI, and Amotivation (r = .61, r = .77, and r = .42, all at p < .01),

HIT 6, NBSI score, and Amotivation (r = .69, r = .60, both at p < .01). Significant negative relationships were reported with regard to Grit score, Perceived Alienation, and Amotivation (r = -.31, r = -.27, both at p = .05).

Primary Analyses

Between group analyses were performed to examine the following: (a) the extent to which Grit and Perceived Alienation predicted scores on Intrinsic Motivation in a traditional student group and non-traditional (non-veteran) student group when compared to a veteran student group. Specifically, a two-way (3 X 3) MANOVA was conducted with Group status (i.e., traditional, non-traditional, veteran) and Gender as independent variables and scores on the 12-Item Grit Scale, UAS (Perceived Alienation), and portions relating to the intrinsic motivation items of the AMS-28 as the dependent variables. Overall significant multivariate effects were investigated via post-hoc testing to determine specifically where any differences occurred (Stevens, 2007).

A one-way between-groups multivariate analysis of variance was performed to investigate differences in Perceived Alienation, Grit, and Intrinsic Motivation with regard to

gender and group. The four dependent variables were Gender and Group membership status (i.e., traditional, non-traditional/non-veteran, and veteran). The independent variables were Perceived Alienation (University Alienation Scale total score), Grit (Grit Scale total score), and Intrinsic Motivation (sum of the intrinsic motivation items from the AMS-28). Preliminary assumption testing was conducted to check for normality,

linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicolinearity, with no serious violations detected. There was a statistically significant difference with regard to Group membership and Grit, F (6,222) = 2.863, p = .010; Wilks' Lambda = .862, partial eta squared = .072. Gender and Group/Gender interaction were non-significant with regard to the independent variables. Table 2 illustrates these results. Post-hoc testing was conducted to determine specifically what differences were present with regard to Group membership. A one-way between-groups analysis of variance was performed to ascertain the impact of Group membership on level of Grit. Participants were divided into three groups according to their student status (Group 1: traditional; Group 2: non-traditional/non-veteran; Group 3: veteran). There was a statistically significant difference at the $p < .05$ level in Grit scores for the three groups: F (2, 139) = 17.4, $p < .001$. The actual difference in mean scores was fairly large. The effect size, when calculated using eta squared, was .2, which is a large effect size (Cohen, 1988). Post-hoc comparisons using the Tukey HSD test indicated that the means score for Group 1 (M = 38.46, SD = 5.70) was significantly different from both Group 2 (M = 43.55, SD = 6.99) and Group 3 (M = 45.15, SD = 5.93). While not significant, there was a mean difference between Group 2 and Group 3.

Two hierarchical multiple regressions were run to examine the impact of relevant predictor variables on the criterion variables of amotivation and intrinsic motivation, respectively. The first regression entered the predictor variables of Gender, PCL-M, mTBI/TBI, and Perceived Alienation to assess the impact on the criterion variable of Amotivation. However, preliminary analyses revealed that Amotivation violated the

assumption of normality in the distribution (Kolmogorov-Smirnov = .000, Shapiro-Wilk = .000). Given this development, the same regression, in the same order, was run using unstandardized residuals, which no longer violated the assumption of normality (Kolmogorov-Smirnov= .200, Shapiro-Wilk = .837). The regression was run with this change and yielded the following results: the full model was significant (F (5, 39) = 3.682, p = .008) and explained 32.1% of the total variance in Amotivation. Specifically, Gender was not a significant predictor (F (1, 43) = .004, p = .951), neither was Gender + total PCL score (PTSD) (F (2, 42) = 2.214, p = .122), but once HIT-6 and NBSI (TBI/mTBI) scores were added in the third step, the model became significant (F (4, 40) = 4.225, p = .006). When the UAS total score (Perceived Alienation) was entered in the final step, the model remained significant (F (5, 39) = 3.682, p = .008. Gender alone predicted 0% of the variance, PCL total (PTSD) added 9.5%, HIT-6 and NBSI scores (TBI/mTBI) added 20.2%, and Perceived Alienation (UAS total score) added an additional 2.4%. Table 5 shows results from this regression.

In the second regression, the full model was not significant (F (4, 39) = 2.407, p = .066) and explained only 19.8% of the total variance in Intrinsic Motivation. In fact, of the predictor variables (PTSD, TBI/mTBI, Perceived Alienation, Grit) only TBI/mTBI explained significant variance in the criterion variable (p = .008).

Chapter Five

Discussion

Hypothesis 1 was partially supported, as there was a significant difference between traditional students and veteran students with regard to level of grit; however, no significant differences were found between traditional students and veteran students with regard to level of perceived alienation or intrinsic motivation. This may suggest that age and life experience are more of a shaping factor for the amount of "grit" an individual considers themselves to possess. Additionally, it may be that individuals who are drawn to military service do so, at least in part, due to a higher level of grittiness. It is also feasible that level of grit varies over the lifespan due to a variety of environmental factors. In the case of the current study, one possible explanation for non-traditional/non-veteran students and veteran students' higher grit scores is that they have been shaped by more life events and challenges (some perhaps simply by virtue of having lived a longer life) than traditional students. Socioeconomic status may also play into this difference, as traditional students were more likely to report higher incomes by virtue of reporting their family income. Thus, the higher the level of financial security, the lower the likelihood of economic hardship, which may in turn lead to more options for the individual.

Hypothesis 2 was supported and suggests that variance in amotivation is influenced by level of post-traumatic stress, TBI/mTBI symptoms, and level of perceived alienation. Results suggest that of all these variables, symptoms of TBI/mTBI predict the greatest portion of outcome variance in amotivation. This would make sense, as the physical symptoms of pain, sensitivity to light, fatigue, and sensitivity to noise would have an impact on level of academic motivation.

Hypothesis 3 was not supported, as the full regression model was not significant. Although the full model explained a little over 20% of the outcome variance in intrinsic motivation, none of the predictors were significant. Of note, intrinsic motivation was positively correlated with perceived alienation and post-traumatic symptoms. This may suggest that veteran students who experience a certain level of stress (either due to alienation, post-traumatic symptoms, or both) may have higher levels of intrinsic motivation for academic pursuits. On the other hand, a moderately strong positive relationship between the two variables was discovered (.56). This would suggest that veteran students who report higher post-traumatic stress symptoms would also report greater academic alienation. That this relationship exists would imply that while not all veteran students may feel high levels of alienation or post-traumatic stress, those who report one may be more likely to report the other.

The level of perceived alienation reported by veteran students in this study surpassed those of the veteran student group reported by Elliot, Gonzalez and Larsen (2011). This could be indicative of the sample coming from a different geographical location (as well as a different institution altogether). It is also plausible that the timing of the sampling may have contributed to differing results. Specifically, the timeframe in which the current sample was obtained is chronologically different in terms of number of conflicts (i.e., the Iraq war was drawing down while the current sample was surveyed), and public opposition/support for the war(s) has waned. Thus, it is possible that a veteran student would experience higher rates of perceived alienation during an early, more contested stage of the war, when both military and civilian casualties were occurring at a higher pace. Also, of the items presented to veteran students, only one "I

sometimes feel like I do not fit in with other students" had a mean of greater than neutral. This would suggest that overall, most of the veterans queried disagreed with the notion that their military experiences were negatively impacting the way other students viewed them.

An examination of the items measuring attitudes towards veteran students revealed no significant differences between traditional and non-traditional students, suggesting that younger and older students shared similar attitudes toward veteran students. Interestingly, traditional students were more likely to find veteran students dangerous (mean of 2.4 vs. mean of 2.15 for non-traditional students). This may reflect the impact of more life experience (i.e., having been around more veterans by virtue of more life experiences). This finding may also be a reflection of technological advances (e.g., social media and 24 hour news sources that cover, in depth, each shooting or act of violence). Perhaps the media emphasis on violence influences younger students to believe the world to be a more dangerous place overall.

Limitations and Future Research

Among the limitations of this study is the fact that subsamples (traditional, non-traditional/non-veteran, veteran) were relatively small and self-report measures were utilized. Also, this study did not track students at multiple times throughout their college experience. It is likely that levels of all the variables would ebb and (perhaps) flow during the years spent on campus. In particular PTSD and mTBI symptoms can improve significantly with appropriate treatment. Also, results of this study revealed a positive relationship between PCL-M scores and scores on the UAS. Following this line of reasoning, it is possible that as a veteran student's post-traumatic stress symptoms

improve, feelings of alienation would improve as well. Additionally, measuring veteran student populations at different geographical locations may produce differing results, as some locations may be more or less "friendly" to a veteran student population.

With regard to suggestions for future research, it may be more accurate to capture veteran students in the manner that they self-identify. For example, there may be a significant difference between an infantry Marine who served in the battle of Fallujah and an Airman who was stationed stateside for a support mission during the same period of time with regard to strength of veteran identity, degree of impairment resulting from post-traumatic stress, and possibly level of perceived alienation.

The notion that veteran "identity" may lie on a continuum is one that may prove fruitful for future research. As each veteran student's experience is different, it may prove helpful to disentangle to what degree each veteran student identifies with and views the world through his/her military experience. Asking a veteran student if their military experience was subjectively more positive or negative may also impact the degree veteran students crystallize their identity at the moment they are surveyed. For example, a veteran student that had a very positive experience in the military (i.e., s/he bonded well with military peers, felt as though the work was meaningful, and wished to continue to represent vestiges of their military experience) may report substantially different responses compared to a veteran student whose experiences were negative (i.e., did not bond well, felt "used" by the military, and would rather put the experience in the past).

Implications for Assisting Veteran Students

Investigating and acknowledging intra-group differences, (especially experiences of alienation) may serve to better identify and assist veteran students who are most "at-risk" of a difficult adjustment to the higher education environment. One possible application gleaned from this research would be to create a dedicated liaison between the Veteran Education Office and the Disability Services Office on campus. This would ensure that all enrolled/prospective veteran students would be able to access services relevant to them, in the form of accommodations specific to disabilities and GI funding. Additionally, a dedicated counselor who specializes in working with veteran students may be able to facilitate a smoother transition for veteran students. This may be particularly appropriate in cases where the veteran student seeks counseling from a person who has experience with veteran issues, and a VA hospital or counseling center is not located in the immediate vicinity.

For applications at the macro-level, veteran students may be encouraged to participate in diversity awareness campaigns that already exist on campus. This may in turn decrease the amount of perceived alienation that a veteran student reports when transitioning from the military to college by encouraging them to be more involved in campus activities such as parades and other activities which promote a celebration of the multiplicity of paths students take to reach college.

Another possible application would be to offer elective classes on "veteran's studies" in order to elicit greater conversation about veteran experiences and culture. Students who are veterans or who wish to work with veterans in the future could learn more about veteran culture and be exposed to issues which are important to veterans at

large. A brief web search found only one program of this kind, which was offered at Eastern Kentucky University (http://programs.eku.edu/academics/veterans-studies). The school's website stated that it was "the only one of its kind in the United States".

Finally, colleges and universities should be encouraged to recruit faculty and administration who have served in the Armed Forces. Many universities have a disclaimer on their human resources that outline hiring policies with regard to non-discrimination applicable to race, national origin, sex, sexual orientation, political beliefs, age, etc., which does include veteran status. This policy is to be lauded; however, it simply prohibits someone from not being hired based on those characteristics. Some universities include phrases to the effect of "Women and persons of color are encouraged to apply" which is certainly in keeping with the spirit of non-discrimination, and offers re-assurance to an applicant who may be undecided about filing an application. Including "veterans" in statements such as this may have a similar effect, and may serve to garner more applications from veterans, adding to the diversity of the university.

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Appendix A

Traditional /Non-traditional Student Demographics

*Please mark an "X" beside your response

1. Please indicate the age that you started college
   __18 – 20
   __ 20 or above
2. Please indicate the amount of time that you took off between graduation from high school and when you started college.
   __ began college directly after high school graduation (with exception of summer break)
   __ began college after more than a summer off

3. Please indicate your student status for the past academic year (if this is your first semester and you are going full time, please mark the full time box).
   __ full time
   __other than full time (i.e. ¾ time or below)
4. Please indicate how many hours you work per week on average(if applicable)
   __ 35 or more hours per week
   __ less than 35 hours per week
5. If you are unmarried/un-partnered do you have primary or sole custody of a minor child for whom you are responsible for parenting?
   __ yes
   __ no
6. What is your gender?
   __ Male
   __Female
   __ Other (trans, genderqueer, etc.)
7. What is your Race/Ethnicity:

_____ African American/Black _____ American Indian or Alaskan Native
_____ Asian _____ Hispanic/Latino
_____ Native Hawaiian or Pacific Islander _____ Caucasian/White
_____ Multiracial and/or multiethnic _____ Other: _____

8. Family Income: _____ < $20,000 _____ $60,000-$80,000
   _____ $20,000-$40,0000 _____ $80,000-$100,000
   _____ $40,000-$60,000 _____ > $100,000

Appendix B

Veteran Student Demographics

*Please mark an "X" beside your response

1. Please indicate the age that you started college
   __18 – 20
   __ 20 or above
2. Please indicate the amount of time that you took off between graduation from high school and when you started college.
   __ began college directly after high school graduation (with exception of summer break)
   __ began college after more than a summer off

3. Please indicate your student status for the past academic year (if this is your first semester and you are going full time, please mark the full time box).
   __ full time
   __other than full time (i.e. ¾ time or below)
4. Please indicate how many hours you work per week on average(if applicable)
   __ 35 or more hours per week
   __ less than 35 hours per week
5. If you are unmarried/un-partnered do you have primary or sole custody of a minor child for whom you are responsible for parenting?
   __ yes
   __ no
6. What is your gender?
   __ Male
   __Female
   __ Other (trans, genderqueer, etc.)
7. What is your Race/Ethnicity:

_____ African American/Black _____ American Indian or Alaskan Native
_____ Asian _____ Hispanic/Latino
_____ Native Hawaiian or Pacific Islander _____ Caucasian/White
_____ Multiracial and/or multiethnic _____ Other: _____

8. Family Income: _____ < $20,000 _____ $60,000-$80,000

_____ $20,000-$40,0000 _____ $80,000-$100,000

_____ $40,000-$60,000 _____ > $100,000

9. My main motivation for attending college is to collect the money the GIBILL pays each month.
10. How many months did you serve on active duty in the Armed Forces (excluding Active Duty for Training)
    __ less than three months
    __ more than 3 months

11. Please indicate your branch of service
    __ USMC __USA __USAF __USN
    __Reserve Component __ Guard Component

12. Were you deployed to an imminent danger or hostile area while on active duty?
    __ yes __no

Appendix C
12- Item Grit Scale

Directions for taking the Grit Scale: Please respond to the following 12 items. Be honest – there are no right or wrong answers!

1. I have overcome setbacks to conquer an important challenge.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

2. New ideas and projects sometimes distract me from previous ones.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

3. My interests change from year to year.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

4. Setbacks don't discourage me.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

5. I have been obsessed with a certain idea or project for a short time but later lost interest.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

6. I am a hard worker.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

7. I often set a goal but later choose to pursue a different one.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

8. I have difficulty maintaining my focus on projects that take more than a few months to complete.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

9. I finish whatever I begin.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

10. I have achieved a goal that took years of work.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

11. I become interested in new pursuits every few months.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

12. I am diligent.
- ❑ Very much like me
- ❑ Mostly like me
- ❑ Somewhat like me
- ❑ Not much like me
- ❑ Not like me at all

Appendix D

University Alienation Scale

1. **The size and complexity of this university make it very difficult for a student to know where to turn.**
   __strongly disagree __agree __ neutral __agree __strongly agree
2. **It is only wishful thinking to believe that one can really influence what happens at this university.**
   __strongly disagree __agree __ neutral __agree __strongly agree
3. **Classes at this university are so regimented that there is little room for the personal needs and interests of the student.**
   __strongly disagree __agree __ neutral __agree __strongly agree
4. **The faculty has too much control over the lives of the students at this university.**
   __strongly disagree __agree __ neutral __agree __strongly agree
5. **The bureaucracy of this university has be confused and bewildered.**
   __strongly disagree __agree __ neutral __agree __strongly agree
6. **I feel that I am an integral part of this university community.**
   __strongly disagree __agree __ neutral __agree __strongly agree
7. **Things have become so complicated at this university that I really don't understand what is going on.**
   __strongly disagree __agree __ neutral __agree __strongly agree
8. **I seldom feel "lost" or "alone" at this university.**
   __strongly disagree __agree __ neutral __agree __strongly agree
9. **Students are just so many cogs in the machinery of this university.**
   __strongly disagree __agree __ neutral __agree __strongly agree
10. **I don't have as many friends as I would like at this university.**
    __strongly disagree __agree __ neutral __agree __strongly agree
11. **Most of the time I feel I have an effective voice in the decisions regarding my destiny.**
    __strongly disagree __agree __ neutral __agree __strongly agree
12. **Life at this university is so chaotic that the student really doesn't know where to turn.**
    __strongly disagree __agree __ neutral __agree __strongly agree
13. **Many students at this university are lonely and unrelated to their fellow human beings.**
    __strongly disagree __agree __ neutral __agree __strongly agree
14. **More and more, I feel helpless in the face of what's happening at this university today.**
    __strongly disagree __agree __ neutral __agree __strongly agree
15. **There are forces affecting me at this university that are so complex and confusing that I find to effectively make decisions.**

__strongly disagree __agree __ neutral __agree __strongly agr

16. **I can't seem to make much sense out of my university experience.**
    __strongly disagree __agree __ neutral __agree __strongly agree
17. **My experience at this university has been devoid of any meaningful relationships.**
    __strongly disagree __agree __ neutral __agree __strongly agree
18. **The administration has too much control over my life at this university.**
    __strongly disagree __agree __ neutral __agree __strongly agree
19. **This university is run by a few people in power and there is not much the student can do about it.**
    __strongly disagree __agree __ neutral __agree __strongly agree
20. **The student has little chance of protecting his personal interests when they conflict with those of the university.**
    __strongly disagree __agree __ neutral __agree __strongly agree
21. **In spite of the fast pace of this university, it is easy to make many close friends that you can count on.**
    __strongly disagree __agree __ neutral __agree __strongly agree
22. **My life is so confusing at this university that I hardly know what to expect from day to day.**
    __strongly disagree __agree __ neutral __agree __strongly agree
23. **In this fast-changing university, with so much conflicting information available, it is difficult clearly about many issues.**
    __strongly disagree __agree __ neutral __agree __strongly agree
24. **This university is just too big and impersonal to provide for the individual student.**
    __strongly disagree __agree __ neutral __agree __strongly agree

Appendix E

AMS-28

WHY DO YOU GO TO COLLEGE ?

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college.

Does not Correspond at all	Corresponds a little	Corresponds moderately	Corresponds a lot	Corresponds exactly
1	2 3	4	5 6	7

WHY DO YOU GO TO COLLEGE ?

1. Because with only a high-school degree I would not find a high-paying job later on. 1 2 3 4 5 6 7

2. Because I experience pleasure and satisfaction while learning new things. 1 2 3 4 5 6 7

3. Because I think that a college education will help me better prepare for the career I have chosen. 1 2 3 4 5 6 7

4. For the intense feelings I experience when I am communicating my own ideas to others. 1 2 3 4 5 6 7

5. Honestly, I don't know; I really feel that I am wasting my time in school. 1 2 3 4 5 6 7

6. For the pleasure I experience while surpassing
   myself in my studies. 1 2 3 4 5 6 7

7. To prove to myself that I am capable of completing my
   college degree. 1 2 3 4 5 6 7

8. In order to obtain a more prestigious job later on. 1 2 3 4 5 6 7

9. For the pleasure I experience when I discover
   new things never seen before. 1 2 3 4 5 6 7

10. Because eventually it will enable me to enter the
    job market in a field that I like. 1 2 3 4 5 6 7

11. For the pleasure that I experience when I read
    interesting authors. 1 2 3 4 5 6 7

12. I once had good reasons for going to college;
    however, now I wonder whether I should continue. 1 2 3 4 5 6 7

13. For the pleasure that I experience while I am surpassing
    myself in one of my personal accomplishments. 1 2 3 4 5 6 7

14. Because of the fact that when I succeed in college
    I feel important. 1 2 3 4 5 6 7

15. Because I want to have "the good life" later on. 1 2 3 4 5 6 7

16. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me. 1 2 3 4 5 6 7

17. Because this will help me make a better choice regarding my career orientation. 1 2 3 4 5 6 7

18. For the pleasure that I experience when I feel completely absorbed by what certain authors have written. 1 2 3 4 5 6 7

19. I can't see why I go to college and frankly, I couldn't care less. 1 2 3 4 5 6 7

20. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities. 1 2 3 4 5 6 7

21. To show myself that I am an intelligent person. 1 2 3 4 5 6 7

22. In order to have a better salary later on. 1 2 3 4 5 6 7

23. Because my studies allow me to continue to learn about many things that interest me. 1 2 3 4 5 6 7

24. Because I believe that a few additional years of education will improve my competence as a worker. 1 2 3 4 5 6 7

25. For the "high" feeling that I experience while reading about various interesting subjects. 1 2 3 4 5 6 7

26. I don't know; I can't understand what I am doing in school. 1 2 3 4 5 6 7

27. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies. 1 2 3 4 5 6 7

28. Because I want to show myself that I can succeed in my studies. 1 2 3 4 5 6 7

Appendix F

Attitudes Towards Veteran Student Questions

(using a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

1. I feel that students who are veterans are more prone to violence than other students

2. I believe that if somebody enlisted after 2001, they knew what they were getting into and deserve whatever happened to them.

3. Veteran students have an unfair advantage due to the educational benefits they receive from the government, when compared to normal students

4. The American military protects our freedom as citizens of this country.

5. I have trouble trusting another student if I know he or she have served in the military.

6. Veterans of the Global War on Terror make me uncomfortable when I am around them.

Appendix G

Questions for Veterans

(using a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

1. I sometimes feel like I do not fit in with other students
2. When I hear my teachers talking about U.S. military operations I feel unfairly judged
3. I sometimes feel like I am looked down upon because I am a veteran
4. I do not like it when people I meet (at the university) want to know the details of my military experience

Appendix H

PCL-M

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

No.	Response	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories, thoughts, or images* of a stressful military experience from the past?					
2.	Repeated, disturbing *dreams* of a stressful military experience from the past?					
3.	Suddenly *acting* or *feeling* as if a stressful military experience *were happening* again (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of a stressful military experience from the past?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful military experience from the past?					
6.	Avoid *thinking about* or *talking about* a stressful military experience from the past or avoid *having feelings* related to it?					
7.	Avoid *activities* or *situations* because they *remind you* of a stressful military experience from the past?					
8.	Trouble *remembering important parts* of a stressful military experience from the past?					
9.	Loss of *interest in things that you used to enjoy?*					
10.	Feeling *distant* or *cut* off from other					

	people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

PCL-M for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD - Behavioral Science Division

Appendix I

PCL-C

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

No.	Response	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories, thoughts, or images* of a stressful experience from the past?					
2.	Repeated, disturbing *dreams* of a stressful experience from the past?					
3.	Suddenly *acting* or *feeling* as if a stressful experience *were happening* again (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of a stressful experience from the past?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful experience from the past?					
6.	Avoid *thinking about* or *talking about* a stressful military experience from the past or avoid *having feelings* related to it?					
7.	Avoid *activities* or *situations* because they *remind you* of a stressful experience from the past?					
8.	Trouble *remembering important parts* of a stressful experience from the past?					
9.	Loss of *interest in things that you used to enjoy?*					
10.	Feeling *distant* or *cut* off from other people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for					

	those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

PCL-M for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD

Appendix J

HIT 6

This questionnaire was designed to help you describe and communicate the way you feel and what you cannot do because of headaches. To complete, please endorse one answer for each question.

No.		Rarely	Sometimes	Very Often	Always
1.	When you have headaches, how often is the pain severe?				
2.	How often do headaches limit your ability to do usual activities including household work, work, school, or social activities?				
3.	When you have a headache, how often do you wish you could lie down?				
4.	In the past 4 weeks, how often have you felt too tired to do work or daily activities because of your headaches?				
5.	In the past 4 weeks, how often have you felt fed up or irritated because of your headaches?				
6.	In the past 4 weeks, how often did headaches limit your ability to concentrate on work or daily activites?				

Appendix K

Neurobehavioral Symptom Inventory-Revised (NBSI-R)

Selected Items

Instructions: Please rate the following symptoms with regard to how much they have disturbed you IN THE PAST TWO WEEKS, INCLUDING TODAY

[0]= None-Rarely if ever present; not a problem at all.

[1]= Mild- Occasionally present, but it does not disrupt activities; I can usually continue what I'm doing; doesn't really concern me.

[2]= Moderate- Often present, occasionally disrupts my activities; I can usually continue what I'm doing with some effort; I feel somewhat concerned.

[3]= Severe- Frequently present and disrupts activities; I can only do things that fairly simple or take little effort; I feel like I need help.

[4]= Very Severe- Almost always present and I have been unable to perform at work, school or home due to this problem; I probably cannot function without help.

No.	Response	None (0)	Mild (1)	Moderate (2)	Severe (3)	Very Severe (4)
4.	Headaches					
5.	Nausea					
6.	Vision problems, blurring, trouble seeing					
7.	Sensitivity to light					
8.	Hearing difficulty					
10.	Numbness or tingling in parts of my body					

Table 1

Demographics of Respondents (sex, race)

Group	Age	Race	American Indian/Alaska Native	Asian/Pacific Islander	Black or African American	Hispanic American	White Caucasian	Missing	Group	Frequency	Valid Percent
Overall		Frequency	5	10	6	8	121	3	Traditional		
									Male	11	19.3
									Female	43	75.4
									Other	0	5.3
		Valid Percent	3.27	6.5	3.92	5.23	79.1	1.96	Missing	3	0
									Total	57	
Traditional	18-20	Frequency	1	3	2	2	46	3	Non-Trad		
									Male	7	19.4
	>20								Female	28	77.8
	0								Other	1	2.8
	18-20	Valid Percent	1.8	5.3	3.5	3.5	80.7	5.3	Missing	0	0
	94.7								Total	36	
	>20										
	0										
Non-Trad	18-20	Frequency	1	3	3	3	26	0	Veteran		
	16								Male	43	71.7
	>20								Female	16	26.7
	20								Other	0	0
	18-20	Valid Percent	2.8	8.3	8.3	8.3	72.2	0	Missing	1	0.17
	44.4								Total	60	
	>20										
	55.6										
Veteran	18-20	Frequency	3	4	1	3	49	0			
	28										
	>20										
	31										
	18-20	Valid Percent	5.4	6.7	1.7	5.0	81.2	0			
	46.7										
	>20										
	51.7										

Table 2

Income Information of Respondents

Group		< $20,000	$20,000-$40,000	$40,000-$60,000	$60,000-$80,000	$80,000-$100,000	>$100,000	Missing
Overall	Frequency	19	30	38	21	14	30	1
	Valid Percent	12.4	19.6	24.8	13.7	9.15	19.6	.06
Traditional	Frequency	3	4	19	6	7	15	0
	Valid Percent	5.6	7.4	35.2	11.1	13.0	27.8	0
Non-Trad	Frequency	3	12	6	3	6	6	0
	Valid Percent	8.3	33.3	16.7	8.3	16.7	16.7	0
Veteran	Frequency	13	11	13	12	1	9	1
	Valid Percent	22.0	18.6	22.0	20.3	1.7	15	.4

Table 3

Veteran Student Representation by Branch of Service

Branch	Valid Percent	Frequency
Army	41.7	25
Air Force	15.0	9
Navy	5.0	3
Marines	8.3	5
Reserve	8.3	5
Guard	68.3	41

Table 4

One-Way Between-Groups Multivariate Analysis of Variance for Intrinsic Motivation and Group Membership/ Gender

Group	Male	Female	Total		
Traditional	10	39	49		
Non-Traditional	3	22	26		
Veteran	32	13	45		
	Value	*F*	Error df	*p*	$\eta\rho^2$
Group	.862	2.863	222	.010	.072
Gender	.990	.189	222	.980	.005
Group* Gender	.979	.388	222	.886	.010

Table 5

Total Grit Group Comparisons

		Mean Difference	Std. Error	Sig.
Traditional	Non-traditional	-5.09	1.38	.001
	Veteran	-6.69	1.16	.000
Non-Traditional	Traditional	5.09	1.38	.001
	Veteran	-1.60	1.35	.463
Veteran	Traditional	6.69	1.16	.000
	Non-Traditional	1.60	1.35	.463

Table 6

Means, Standard Deviations, Alphas, and Intercorrleations for Predictor and Criterion Variables for Traditional Students

Variable	N	*M*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. UAS	53	57.23	12.42	1	.096	.188	.126	.381**	-.236	.493**
2. Grit	52	28	5.70	.096	1	-.260	-.093	.092	.120	-.188
3. PCL	55	32.16	11.53	.188	-.260	1	.369**	.386**	-.020	.378**
4. HIT 6	52	14.08	4.85	.126	-.093	.369**	1	.505**	-.085	.224
5. NBSI	53	13.19	3.72	.381**	.092	.386**	.505**	1	-.045	.350**
6. Intrinsic	51	37.20	9.57	-.236	.120	-.020	-.085	-.045	1	-.444**
7. Amot	50	5.54	2.24	.493**	-.188	.378**	.224	.350**	-.444**	1

**. Correlation is significant at the 0.01 level (2-tailed)

Table 7

Means, Standard Deviations, Alphas, and Intercorrleations for Predictor and Criterion

Variable	N	*M*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. UAS	28	63.46	13.38	1	-.458*	.329	.186	.180	.236	.346
2. Grit	31	43.55	6.99	-.458*	1	-.249	-.378*	-.319	.069	-.374
3. PCL	30	31.97	11.88	.329	-.249	1	.209	.611**	.103	.295
4. HIT 6	32	14.72	5.19	.186	-.378*	.209	1	.622**	.059	.433*
5. NBSI	31	13.74	5.90	.180	-.319	.611**	.622**	1	-.067	.432*
6. Intrinsic	32	40.56	9.70	.236	.069	.103	.059	-.067	1	-.006
7. Amot	30	5.83	3.16	.346	-.374	.295	.433*	.432*	-.006	1

Variables for Non-Traditional Students

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Table 8

Means, Standard Deviations, Alphas, and Intercorrleations for Predictor and Criterion Variables for Veteran Students

Variable	*N*	*M*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. UAS	48	56.63	17.74	1	-.314*	.566**	.622**	.566**	.080	.342*
2. Grit	59	45.15	5.93	-.314*	1	-.030	-.082	-.068	.142	-.268*
3. PCL	54	30.54	13.05	.566**	-.030	1	.608**	.767**	.033	.418**
4. HIT 6	53	12.66	5.58	.622**	-.082	.608**	1	.689**	-.069	.356**
5. NBSI	52	13.94	5.18	.566**	-.068	.767**	.689**	1	-.146	.595**
6. Intrin	51	38.67	10.36	.080	.142	.033	-.069	-.146	1	-.121
7. Amot	54	6.04	3.39	.342*	-.268	.418**	.356**	.595**	-.121	1

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Table 9

Standard Multiple Regression Predicting Intrinsic Motivation in Veteran Students

Variable	*B* (unstand.)	*SE B*	β	*p*
Model	16.603	14.751		.066
PCL	.306	.161	.417	.066
TBI	-.711	.254	-.679	.008
Grit	.425	.285	.227	.144
UAS	.223	.131	.337	.095