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Boots on the ground: examining transition factors for military and veteran student academic success

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**Boots on the ground: Examining transition factors for military and veteran
student academic success**

by

Denise Nicole Williams

A dissertation submitted to the graduate faculty

In partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Education (Educational Leadership)

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Iowa State University

Ames, Iowa

2015

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DEDICATION

For those who served and those who stood beside them:

Master Sergeant John E. Williams III, USAF (Retired), and Mrs. Nancy Williams

Airman First Class John E. Williams IV, ANG, and Mrs. Amanda Williams

Senior Master Sergeant John E. Williams, Jr., USAF (Retired), and Mrs. Earlene Williams

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ABSTRACT

The number of military and veteran students entering higher education continues to grow rapidly; nevertheless, there is a paucity of institutional research from which to draw recommendations about how the college transition translates to academic success and persistence. The purpose of this study was to identify the demographic characteristics, financial, academic, and personal experiences and campus relationships during military and veteran students' transitions to a college or university that predict grade point average (GPA) and intent to return. This study utilized a cross-sectional, non-experimental survey design to determine the relationship between study factors, cumulative GPA, and the level to which these factors can be used to predict academic success as measured by GPA and continued commitment to the institution based on intent to return to the institution.

The results of the study indicated that multiple, but different, factors predict academic success as measured by GPA for community college and four-year institution students. Intent to return could not be predicted utilizing the study model for four-year institution students; however, the perception of being academically prepared to enter the institution was the sole significant predictor of intent to return for community college participants. Relationship and personal factors were consistently insignificant, which presented a new finding in terms of military and veteran student literature. Several recommendations and implications for practice were provided, including specific recommendations by type of institution.

CHAPTER 1. INTRODUCTION

Background of the Study

A tidal wave of military and veteran students has struck campuses across the country; over 500,000 more students utilize military educational benefits now than in 2000 (Cate, 2014; Rumann, Rivera & Hernandez, 2011; United States Department of Veterans Affairs, 2011). In 2012, military educational benefits exceeded \$10 billion and served 4% of undergraduate students nationally (Radwin, Wine, Siegel, & Bryan, 2013); but, despite the deluge of students and the expenditure of massive financial resources, there has been scant research assessing how well institutions are serving military and veteran students who are in transition.

Military and veteran students' experiences differ from those of their non-military peers and institutions need to examine these differences closely in order to serve this population (Cook & Kim, 2009; Ostovary & Dapprich, 2011; Sanders, 2013; Wheeler, 2012). Studies have revealed that military and veteran students may feel isolated in as well as excluded from their campus communities (Livingston, Havice, Cawthon, & Flemming, 2011; Rumann & Hamrick, 2009), under-valued in the classroom (Williams, 2013), and frustrated by financial delays (United States Government Accountability Office (USGAO), 2013; Williams; 2013).

In response, higher education institutions have developed programs, offices, and policies to serve this emerging population utilizing existing research. However, much of that research has been limited in scope and, although valuable, has not provided a broad

overview of the difficulties students with military experience may face when transitioning to a college or university setting.

Currently, higher education institutions devote resources to serving military and veteran students (Jackson, Fey, & Ewing Ross, 2013) but they are doing much of this work based on perceived needs rather than empirical data (Barry, Whiteman, & MacDermid Wadsworth, 2014; Bauman, 2013; DiRamio & Jarvis, 2011; Jones, 2013; Livingston et al. 2011). In other words, state and federal governments, higher education institutions, and military and veteran students and their families believe that providing access to a college education is a valuable endeavor and are investing a significant amount of time and money. However, these investments are being made without a full understanding of the needs and experiences of this population of students (McGovern, 2012; Moon & Schma, 2011).

This study was conducted to provide a more comprehensive picture of the needs and experiences of military and veteran students in transition related to their academic success. More specifically, this multi-institution research focused on the demographic, personal, academic, and financial factors that influence the academic performance and retention of military and veteran students. The intent was to enable colleges and universities to be better prepared to support the success of this emerging population by providing a clearer understanding of their needs and experiences.

Problem

Minimal empirical research currently exists to inform practitioners about the development of programs and services designed to serve military and veteran students (Barry, Whiteman, & MacDermid Wadsworth, 2014; DiRamio & Jarvis, 2011; DiRamio,

Ackerman, & Mitchell, 2008; Rumann, 2011; Vacchi, 2013). The experiences of military and veteran students have been documented largely through qualitative inquiry (O'Herrin, 2011; Whiteman et al. 2013) but there have been few, if any, published quantitative studies that provide a broader understanding of the experiences of military and veteran students' transition experiences. Although qualitative studies of transition have provided rich, thick descriptions of student experiences on which the current study was based, a quantitative exploration of this topic may enhance the assessment of those findings across a large number of participants to facilitate generalizability for developing programs and services.

Purpose of the Study

The purpose of this study was to identify the demographic characteristics, financial, academic and personal experiences, and campus relationships during military and veteran students' transitions to a college or university that can be utilized to predict grade point average (GPA) and intent to return. The findings may enable two- and four-year institutions to better serve military and veteran students.

Research Questions

This study was based on one primary question: What factors influence the academic success and persistence of military and veteran students during their transition? This broad question was divided into three research questions:

1. What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences, campus relationships and GPA for military and veteran students?

- 1a. What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences and campus relationships and GPA for military and veteran students attending community colleges?
- 1b. What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences and campus relationships and GPA for military and veteran students attending four-year institutions?
2. Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predict cumulative GPA for military and veteran students?
 - 2a. What influence did factors have in predicting GPA for students attending community colleges?
 - 2b. What influence did factors have in predicting GPA for students attending four-year institutions?
3. Did demographic characteristics, financial, academic and personal experiences, and campus relationships predict intent to return to the institution for the following semester for military and veteran students?
 - 3.a What influence did factors have in predicting intent to return for students attending community colleges?
 - 3b. What influence did factors have in predicting intent to return for students attending four-year institutions?

Variables

The independent variables in this study were gathered from participant responses to questions regarding their demographic characteristics, their financial, academic, and personal

transition experiences and relationships during initial transition to the institution. A complete list of these variables is included in Table 1.

The dependent variable for the first and second research question was cumulative GPA at the time of the survey. Intent to return was the dependent variable for the third research question.

Conceptual and Theoretical Frameworks

Astin's (1993) Input-Environment-Output conceptual framework provided the structure for this study. The Student Veteran Academic and Social Transition Model developed by Livingston et al. (2011) informed the content of the study. Livingston et al. posited that military socialization influences the use of auxiliary aid and the social transition of veterans which, in turn, influences the navigation of enrollment and use of support structures including relationships with peers and institutional agents. Livingston et al. provided a grounded understanding of factors contributing to success for military and veteran students. Chapter 2 offers a more in-depth review of the conceptual framework and theoretical framework, and their applications to this study.

Methodology

The purpose of this study was to identify the demographic characteristics and financial, academic and personal experiences in addition to campus relationships during military and veteran students' transitions to a college or university predict academic success and intent to return. The goals of this study were to determine: (a) the existing relationships between study factors and cumulative GPA; (b) how these factors predict academic success

as measured by GPA; and (c) how the factors can be utilized to predict continued commitment to the institution based on intent to return to the institution.

The study was approved by the Iowa State University Institutional Review Board (IRB). As this study included multiple campuses, approval from the IRB entity at each institution was also collected and is included in Appendix A.

Design

This research utilized a cross-sectional, non-experimental survey design with data collected at one point in time across the selected population (Creswell, 2014). Thompson and Panacek (2007) stated that non-experimental designs are often retrospective because participants are reflecting on their experience and there is no ability for the researcher to randomly assign participants to treatment groups. Although qualitative studies of student veterans have provided rich insight into the broad experiences of students, the bulk of quantitative studies about and around military and veteran students have focused solely on mental health and post-traumatic stress disorder (PTSD) (Whiteman et al. 2013). Survey design was the preferred methodology for the current study because a survey can be distributed, collected, and the data prepared for analysis in a timely manner, especially with a web-based survey (Dillman, Christian, & Smythe, 2009).

Sample

The population for this study was comprised of military and veteran students currently enrolled at higher education institutions in one Midwestern state. The sample for this study included all enrolled undergraduate students at 13 participating institutions who identified as veterans of the U.S. Armed forces or military personnel. Participants were included in the sample who had registered to receive military educational benefits with the institution, or self-identified as military personnel or a veteran on their application for admission or with their institution's Veterans Services Coordinator. Students who entered the institution as both full- and part-time undergraduates were invited to participate. The survey was distributed during the 2014 spring semester to 2,408 students.

Data collection and instrument

Data for this study were collected using the Iowa Survey of Veteran and Military Students (ISVMS) and deployed during the first week of February in 2014. The ISVMS was developed and piloted by Senia, Watson, & Williams (2013) in cooperation with one institution's Veteran Center in spring 2013. The purpose of that study was to assess the transition experiences, concerns and barriers for military, veteran and military dependent students at that institution in an attempt to improve services for these students. The current version of the ISVMS was adapted from the pilot survey for this research.

Data analysis

Descriptive and inferential statistics were used to determine the relationship between demographic, experiential and relationship factors with GPA. Correlation analysis was performed to answer Research Question 1 by determining existing relationships. Ordinary

least squares multiple regression was used to analyze academic success with cumulative GPA as the continuous dependent variable in Research Question 2. Standard logistic regression was used to analyze intent to return in Research Question 3. Regression enables researchers to develop an understanding of the relationship between variables and post the direction and the importance (Stock & Watson, 2011). Regression also allows for the determination of which of the independent variables significantly predict academic success or retention at the alpha of .05. Stata™ version 13 was used to perform the regression analyses.

Terminology

Throughout this study the participants are described as military and veteran students. Although the two groups shared some experiences, they may differ in other ways. *Military student* refers to a student who is either a member of the active duty military, military reserve, or military National Guard (Brown & Gross, 2011); *veteran student* refers to an individual student who has been discharged or retired from the United States Armed forces. Military students may still be mobilized and be required to participate in on-going military training, whereas veteran students have completed their military requirements unless they are called back to active duty. Both groups participated in basic training as part of their military socialization, could have been deployed to a combat zone, and were eligible for military educational benefits pursuant to benefit stipulations (Rumann, 2010).

In this study, the *transition period* was operationalized as the first semester at the institution. Although “transition” can be defined broadly, limiting the scope of the definition in this study to the first semester enabled the designation of a finite time period to explore, and determine which institutions might address issues or concerns.

Intent to return and *academic success* were two additional terms used heavily throughout this study. Tinto (1993) defined intent to return as the students' expressions of their plan to continue their studies at the same institution during the semester following their participation in this research.

Academic success was measured by examining GPA. GPA was used as a measure of academic success for the current study. A higher GPA indicated a higher level of academic success for this study. Although GPA is not the sole measure of academic success, it is a commonly agreed upon metric to assess academic success (Pascarella & Terenzini, 2005).

Limitations and Delimitations

Delimitations

An important delimitation of this study was that the research included only military and veteran students from one Midwestern state. Each participating institution was responsible for identifying its military and veteran population which this was accomplished either through self-reported veteran status or by examining military educational benefits. Students who did not self-identify as a military or veteran student or utilize military educational benefits at their institutions were not invited to participate in the study.

A second delimitation in the study was that only military and veteran students at participating institutions were surveyed. Although the results may be of interest to other institutions, the findings may not be generalizable to populations at different institutions. Finally, the current study explored demographic characteristics and the financial, academic,

personal and relationship experiences during the transition as outlined through current literature.

Limitations

The current study was not without limitations. As addressed in the delimitations, the survey was distributed by individual veterans' services coordinators at participating campuses; thus, the method of identifying those students varied by campus. Without a random sample, the results may not be generalizable to the greater population of military and veteran students but applicable only to the participating intuitions. Measures of intent to return and GPA were based on self-reported data and not institutional reports of retention and GPA. Self-reported intent to return was an important measure for this population because this measure reflected each participant's intent. In some cases, a military student may be called to active duty and, therefore, not retained. However, this failure to enroll is based on an external factor and may not necessarily be as a result of the student's experience. Since this study focused on examining factors that may influence a student's decision to stay, this self-reported measure was useful.

Significance of the Study

Currently, higher education institutions have been developing programs, support offices and policies to serve this emerging population (Jackson, Fey & Ewing Ross, 2013) but they have been doing much of this work based on perceived needs rather than empirical data (Bauman, 2013; DiRamio & Jarvis, 2011; Livingston et al. 2011). In other words, state and federal governments, education institutions, and military and veteran students believe that a college education is a valuable endeavor and, subsequently, are investing a significant

amount of time and money. With a comprehensive understanding of the needs and experiences of military and veteran students, institutions might possibly furnish resources that are better tailored to meet the needs of this population.

Nationally, it is unclear to what extent military and veteran students are academically successful (USGAO, 2013). Outcomes in this study included successful transition that were identified by Livingston et al. (2011) as negotiating re-enrollment through academic success and intent to return. This study explored how demographic characteristics, transition experiences, characteristics and relationships shaped the academic success of military and veteran students.

Student success

The findings from this study may provide higher education institutions with strategies to leverage campus resources to best serve military and veteran students during their transition. The findings also have implications that may be useful to faculty members in the classroom, student affairs staff overseeing support and leadership programs, and for student organizations working to develop successful transition support systems for military and veteran students. As a result, institutions may become more effective stewards of tax dollars allocated to our country's military personnel.

As institutions may use the findings from this study to adjust or examine services, military and veteran students, themselves, may also benefit from the findings. Student groups, such as the *Student Veterans of America* and local student organizations, serve in an advocacy and support role on campuses (DiRamio et al. 2008; DiRamio & Jarvis, 2011;

Rumann & Hamrick, 2009; Rumann, 2010); thus, the findings from this study could inform programming or enable individuals to contextualize their own experiences.

Policy-makers

Given the large financial investment in supporting military and veteran students to complete a degree, it is imperative that policy-makers understand how transition factors relate to academic success. Application of these findings could influence how entities, such as Board of Regents or Trustees groups, allocate or approve funds as well as how the military prepares veteran students to enter or re-enter the academic community upon separation from active-duty service.

Summary

The purpose of this study was to identify demographic characteristics, and financial, academic and personal experiences in addition to campus relationships during military and veteran students' transitions to a college or university predict academic success and intent to return. The study includes a review of current literature, the methodology, findings, and a discussion of the results. Chapter 2 includes a review of literature related to military and veteran student transition, theoretical foundations, and predictive factors. Chapter 3 provides an outline of the methodology that was used to conduct the study. The results of the study are included in Chapter 4, and Chapter 5 provides an interpretation of the results, and implications for practice and research in higher education.

CHAPTER 2. REVIEW OF LITERATURE

The current literature frames and supports the need for and significance of this study. The following review was conducted to accomplish four goals: (a) illustrate how the qualitative studies of recent military and veteran students have provided context for the current study; (b) present research surrounding the conceptual and theoretical frameworks that guide the current study; (c) demonstrate why academic success and persistence are important factors in the study of military and veteran student transition; and (d) provide a rationale for including the proposed independent variables.

Military and Veteran Student Transition

College campuses have seen an influx in the number of veteran and military students with the passing of the Post-9/11 Veterans Educational Assistance Act, commonly referred to as the Post-9/11 G.I. Bill, in 2008, (Bauman, 2013; Carne, 2011; Cate, 2014; De Sawal, 2013; Nichols-Basebolt, 2012; Rumann, Rivera & Hernandez, 2011; Sanders, 2013; Steele, Salcedo, & Coley, 2010; Vacchi, 2012). The number of students utilizing military educational benefits has increased by more than 500,000 since 2000 (United States Department of Veterans Affairs, 2011). Veterans who served in combat in recent military actions, including those serving in Iraq and Afghanistan, can receive expanded military educational benefits compared to previous generations of veterans (Cook & Kim, 2009; Lang & Powers, 2011; McGovern, 2012; United States Department of Veterans Affairs, 2012). Military educational benefits exceeded \$10 billion nationally in 2012 (United States Department of Veterans Affairs). Despite the increase in students and allocated financial

resources, there has been little empirical research assessing how institutions can effectively serve students during their transition (Jones, 2013a).

The experiences of military and veteran students have been documented largely through qualitative inquiry (O'Herrin, 2011), and there have been few, if any, multi-institution quantitative studies that provide a broader and more comprehensive understanding of the experiences of military and veteran students' transition experiences. Multiple qualitative studies have examined the transition experiences of military and veteran students (e.g., Bauman, 2009; DiRamio, Ackerman & Mitchell, 2008; Livingston et al. 2011; Rumann & Hamrick, 2010). With a population ranging from 3 to 25 participants at one to three institutions, these studies have illuminated that military and veteran students: (a) experience role incongruence between their military identity and the educational community (Bauman, 2009); (b) have both validating and invalidating experiences during their transition (Bauman, 2013; Rumann & Hamrick, 2010; Schiavone & Gentry, 2014); (c) struggle with insufficient or dated academic preparation (DiRamio et al. 2008); and (d) face adjustment due to acculturation to discipline and respect for hierarchy (cornerstones of military socialization) that influence the use of campus resources (Livingston et al. 2011).

Multiple studies have addressed the transition experiences of veteran and military students (Bauman, 2009 & 2013; DiRamio et al. 2008; Griffen & Gilbert, 2015; Livingston et al. 2011; Rumann & Hamrick, 2010; Schiavone and Gentry, 2014). These studies have been qualitative and, with the exception of Bauman, they have used Schlossberg, Waters, and Goodman's (1995) model of adult transition as a theoretical foundation. Schlossberg et al. defined transition as "any event or non-event, which results in changed relationships, routines, assumptions and roles" (p. 27). In some ways, a transition is never fully complete

but in this study, participants were asked to focus on their first semester as a student at their institution. The following summary of existing studies on military and veteran student transition highlights the need for the current study.

Bauman (2009, 2013) interviewed 24 undergraduate Marine reservist and Army National Guard students who had been mobilized to active duty while students. In this study, Bauman identified three phases for students whose studies were interrupted by mobilization: (a) pre-mobilization phase, (b) separation phase, and (c) return phase. Many Reservists, National Guard members and active-duty military may constantly find themselves in a pre-mobilization phase. Not all participants in this study were deployed or mobilized mid-term, some had experiences with this separation. Bauman's study also identified a role incongruence returning soldiers felt once re-immersed in a campus environment and how that experience negatively impacted some of their social and academic interactions. The current study investigated, on a larger scale, the impact of military and veteran student's social and academic relationships. This study also investigated the financial and academic administrative tasks related to transition which Bauman found to be a barrier for participants in the study.

DiRamio et al. (2008) interviewed 25 student veterans who had recently returned from combat in Iraq or Afghanistan. The authors aligned student experiences with the concepts of moving in, moving through and moving out as outlined by Nancy Schlossberg (Goodman, Schlossberg & Anderson, 2006; Schlossberg et al. 1995); the "moving out" component of their findings relates most closely with this study. Their findings revealed that veterans returning home from combat struggled with stressors related to changed or terminated relationships on campus and military educational benefits sufficient enough to

cover the costs of attending the institution. In addition, insufficient academic preparation posed a challenge for some participants in their study. The current study explored students at multiple two and four year campuses to determine the relationship among components of financial, personal, academic and relationship experiences and ability to predict GPA and intent to return to the institution.

A study by Rumann and Hamrick (2010) was based on the experiences of six veterans re-enrolling at a community college after deployment to examine the core components of transition as described by Schlossberg et al. (1995): self, situation, strategies and support. The authors identified themes including heightened feelings of maturity and academic goal commitment as well as the power of social support from fellow student veterans or military-affiliated peers. They also discussed the impact of interactions with peers in their study, including those that validated military and veteran students in their study (fellow military peers) and those that invalidated military and veteran students (civilian student or faculty sharing stereotypes of military experiences with limited knowledge). The findings from this study about the role of military and non-military peers, as well as the cues received within the institutional environment, informed the current study which explored the factors influencing academic success and intent to return.

Schiavone and Gentry (2014) interviewed six students applying case study methodology to understand the challenges that student veterans face during their transition from military service into institutions of higher education. Findings included three main themes: maturity and global awareness, liabilities in insomnia and social relationships, and the transformation of assets to liabilities. The findings revealed that the subjects perceived they had not only gained maturity and greater sense of the world through their military

experiences but also that this maturity left them feeling disconnected from peers whom they perceived as less mature. Participants in the study also shared symptoms of post-traumatic stress disorder (PTSD), including insomnia, which they also attributed to a change in environment from a rigid military structure to a more fluid institutional structure. Schiavone and Gentry's study added a conceptualization of liabilities and assets to the existing literature; however, this additional qualitative study was a case study conducted at one institution with a small number of participants.

Conceptual Model and Theoretical Framework

Conceptual model

Astin (1993) developed the Input-Environment-Outputs (I-E-O) model as a framework for assessment and evaluation activities in higher education. The I-E-O conceptual framework provided a model through which to understand the factors in the current study (see Figure 1). As administrators determine where to allocate human and financial resources to serve military and veteran students, the answers to the research questions must be understood within the context of the inputs (military and veteran students, ethnicity, sex, socioeconomic status, etc.). How military and veteran students experience the environment (auxiliary aid and support) is an area wherein administrators can exert the most influence or order to reach the outputs of successful transition (navigating re-enrollment), academic success and persistence as measured by the outputs of intent to return and GPA.

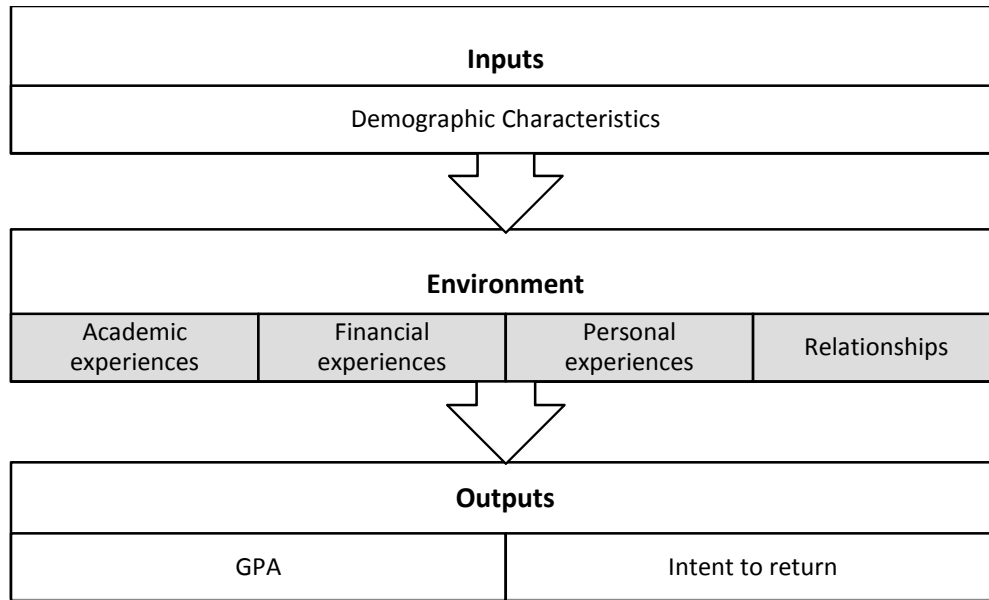


Figure 1. Military and Veteran Transition Study Conceptual Model

Theoretical framework

Livingston et al. (2011) used grounded theory research to develop the Student Veteran Academic and Social Transition Model (SVASTM) based on interviews with 15 students re-entering a university following war-zone deployment. Their model included four components influencing how a student veteran navigates the re-enrollment process (and how that process, in turn, influences the four components) (see Figure 2). Military service was considered a cornerstone which included a considerable focus on academic work and increased maturity after military service compared with their civilian peers. Although Livingston et al. did not provide a definition of “cornerstone”, the content of their model indicates that cornerstones are characteristics or values instilled in an individual as part of military service. Livingston et al. associated two other concepts to military influence, including challenges relating to non-military peers and a sense of pride

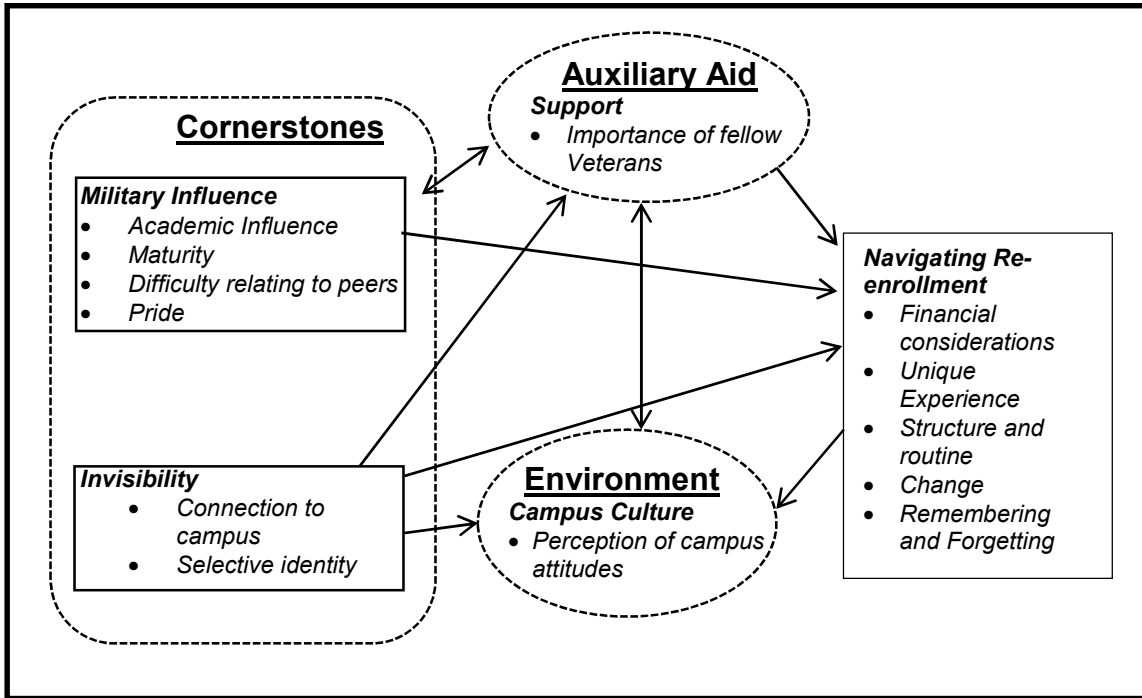


Figure 2. Student Veteran Academic and Social Transition Model (Livingston et al. 2011)

instilled during military socialization that may inhibit help-seeking. This sense of pride, or self-reliance, aligns the second cornerstone factor: invisibility. Livingston et al. (2011; 2012) noted that student veterans selectively shared their identity as a veteran or intentionally attempted to navigate their re-enrollment without help or reliance on others. The authors also remarked that “from an administrative standpoint, it is difficult to support a population that is invisible and, in some cases, wants to remain unnoticed” (p. 323).

Livingston et al. (2011) identified auxiliary aid and environment as intermediary concepts between the cornerstones and a student veteran’s navigation of the re-enrollment process. Auxiliary aid or support is included in academic and social support under the SVAST model, but Livingston et al. found that the cornerstone factors sometimes inhibited

veterans from utilizing academic support and social supports which varied widely.

Environment or campus culture includes a perception of attitudes toward student veterans and military personnel held by administrators, faculty, staff, and peers.

Finally the navigation of re-enrollment included the adjustment or re-adjustment to a change in routine and structure compared with military life. These adjustments included re-entering the classroom where information from courses taken before deployment is needed, but may be hard for the student to access if that information was not directly used during military service. The navigation also included transitional financial concerns.

Livingston et al. (2011) outlined the most comprehensive theory of military and veteran student success to date and, unlike previous studies, incorporated military influence as well as the role of finances in explaining the transition experiences for military and veteran students. The model generated from the theory incorporated the role of military socialization and how that socialization influences the use of social and academic support to navigate re-enrollment, including the financial transition. Finally, this model included how the aforementioned factors related to how the student perceived the campus environment, a factor used in the current study.

The study conducted by Livingston et al. (2011) used a population of students who reenrolled after war-zone combat. Although not all participants in the current study had experience with deployment or re-enrolling, the components of the model were broadly consistent with the literature on the experiences of veteran and military students. The conceptual structure of the current study used the model by Livingston et al. (2011) regarding academic, social, and financial transition.

Summary

The aforementioned review summarized how Astin's (1993) I-E-O model provided a conceptual outline for examining military and veteran student transition and The research by Livingston et al. (2010) contributed to understanding how those experiences may influence successful navigation of enrollment. The combination of both conceptual and theoretical framework allows for the content of Livingston et al. to be partnered with a focus on assessing outcomes versus describing experiences. The following sections move beyond the theoretical framework to provide an understanding the outcomes and factors associated with the current study.

Transition Outputs

Academic success

Grade point average (GPA) was used as a measure of academic success for the current study. A higher GPA indicated a higher level of academic success in this study. Although GPA is not the sole measure of academic success, it is a commonly agreed upon metric to assess academic success (Pascarella & Terenzini, 2005). Pascarella and Terenzini further asserted that grades earned at the beginning of the college journey are an especially powerful predictor of persistence. Throughout the literature, GPA has been shown to be influenced by demographic and environmental factors (e.g., Boyraz, Horne, Owens, & Armstrong, 2013; Ewert, 2012; Flashman, 2013; Renn & Reason (2013), Stater, 2009). Research Questions 1 and 2 addressed academic success in the current study.

Intent to return

Retention to an institution is important for several reasons; chief among them is that retention is strongly correlated with persistence and earning a degree. From an institutional standpoint, retention is important for financial and program sustainability. Tinto (1993) defined intent to return as students' expressions of their plan to continue their studies at the same institution during the semester following their participation in the research. Grades are a predictor of persistence; however, intent to return and early academic success are not isomorphic constructs (Tracey, Allen, & Robbins, 2012). In the current study, intent to return and academic performance were examined separately due to the non-perfect relationship and the numerous other factors that may complicate intent to return beyond academic performance.

Research on the academic success and persistence of military and veteran students is inconclusive. A study by Teachman (2005, as cited in Kelty, Kleykamp, & Segal, 2010) revealed that student veterans tend to achieve lower levels of degree attainment than non-military students. Findings by Kelley et al. (2013) revealed that student veterans were 4.1% more likely to drop out of post-secondary institutions than their non-military peers. Recently, Cate (2014) published the initial findings of a study conducted through *Student Veterans of America* and the National Student Clearinghouse. Early findings from this study of nearly 1 million individuals showed that degree attainment for veterans was above 50% which mirrored the general college student population (Cate). The current study asked military and veteran students their plans to return to their institution for the coming year. Student veterans who leave higher education tend to do so for reasons related to environmental stressors (Durdella & Kim, 2012; Steele et al. 2010) which was explored

throughout the current study. Intent to return was the dependent variable examined in Research Question 3.

Transition Inputs

Demographic characteristics

Understanding student demographics is endemic to understanding student persistence (Renn & Reason, 2013). Theories of college student transition and persistence have highlighted the important role that college experiences play in shaping outcomes. Experiences in college were explored in the current study but background characteristics and pre-college characteristics also influence a student's adjustment to college and eventual outcomes (Ewert, 2012).

Head (2014) explained that student veterans represent a microcosm of American society, representing a diversity of ethnicity, sex and gender, religion, economic background and people with ability. Iverson and Anderson (2013) described how some demographic characteristics can affect the experiences of military and veteran students in higher education. Military experience is an additional level of identity military and veteran students must navigate during their transition (DiRamio & Jarvis, 2011). Many components of identity have been explored in literature related to military and veteran students' transition experiences, including sex and gender (Baechtold & DeSawal, 2009; Demers, 2013; DiRamio & Jarvis), first-generation student status (Durdella & Kim, 2012; Wurster et al. 2010), deployment experience (DiRamio et al. 2008; Rumann & Hamrick, 2010), family (Whiteman et al. 2013), and service-related disability (Kraus & Rattray, 2012; Ostovary, & Dapprich, 2011; Schiavone & Gentry, 2014). Although the role of ethnicity has not been

researched in terms of military and veteran students, the National Center for Veterans Analysis and Statistics estimated that the percentage of veterans identifying as racial and ethnic minorities will rise from 21% to 34% by 2014 (United States Department of Veterans Affairs, 2013). The current study explored the role of these demographic characteristics in predicting academic success and intent to return.

Sex

Since the 1990s, women have begun to outnumber and outperform men in higher education, and men leave college more often than women (Severiens & ten Dam, 2010). Women in the United States have higher levels of degree completion in addition to higher levels of academic success (Ewert, 2012; Flashman, 2013; Sonnert & Fox, 2012). Pascarella and Terenzini (2005) asserted that evidence points to women experiencing different educational experiences in college than men.

In the last decade, the number of women in the military has increased steadily. Although women comprised 20% of new recruits in 2009 (DiRamio & Jarvis, 2011), the vast majority of new recruits, active-duty military, and veterans are still men. As a minority group within the military and veteran community, women may face some unique barriers in terms of military socialization and the transition to the college environment.

Although women have been involved in all wars in our country's history, it was not until recently that women have been able to perform their service requirements closer to combat (Baechtold & De Sawal, 2009). The Department of Defense announced in 2013 that they would rescind the *Direct Combat Exclusion Rule* which excluded women from service in some units because of their sex (United States Department of Defense, 2013).

There has been a paucity of research on the role of sex or gender in the transition from military service to civilian or student life (Demers, 2013; DiRamio & Jarvis, 2011), and campuses are often unaware of the unique needs of women military and veteran students (Elliott, 2014). Women veterans returning to academia enter an environment where their military service is often discounted or underestimated because of their sex (Elliott, 2014; Iverson & Anderson, 2013). Baechtold and De Sawal (2009) noted that women who serve in the military are less likely to identify themselves as a veteran after their service when compared to men.

Women veterans may avoid asking for help, especially from men for fear of feeling or appearing weak (Baechtold & De Sawal, 2009). A study by Demers (2013) revealed that women had used “acting like one of the guys” as a coping mechanism while in combat as part of mostly male units and, upon return to civilian life, struggled to balance experience and expectations of their gendered behavior. This identity (re) negotiation compiled with a fear of or aversion to asking for help may complicate the ability for women students to connect with campus resources. Support structures may include faculty and staff as validating agents; and, although male veterans may be able to find other male faculty and staff who identify as veterans, it is less likely that women veterans will find the same.

Although the majority of veterans and military personnel were men, the current study explored whether sex plays a role in the academic success and intent to return. In addition to the existing literature, the findings of this study may be used to shape how institutions can serve women veterans and military personnel.

Race and ethnicity

Research in higher education has explored the role of race and ethnicity in college student success. Renn and Reason (2013) underscored the need to understand the role of race and perception of racial climate in transition because this may affect the college transition and later student success. Eimers and Pike (1997) argued that ethnic minority and non-minority students do not differ significantly in their adjustment to college; however, other scholars have found race and ethnicity to be an important factor in successful transition. For example, Black and Latino students have historically been retained at rates lower than peers in other ethnic groups (Fischer, 2007). According to Guillory and Wolverton (2008), there is little empirical research on the experiences of Native American college students but those that exist reported exceedingly low levels of retention for this student population. Spenner, Buchmann, and Landerman (2005) found that the academic achievement gap between African American and White students emerged during the first semester of college.

Very little, if any, empirical research exists on the role of race and ethnicity in the transition to college for military and veteran students. What is known about military and veteran students of color is largely about representation within the military and veteran populations. Since the 1970s, African Americans have been represented consistently in the military at much higher rates than in the civilian population, even though that representation has been in decline since the wars in Afghanistan and Iraq began, dipping below 20% of armed service members in 2006 for the first time in 25 years (Kelty, Kleykamp, & Segal, 2010). Among women serving in the military, 39% are women of color, with African American women comprising 20% of all women in the military (Kelty et al., 2010; United States Department of Veterans Affairs, 2013). Since the early 1990s, the number of Latino

individuals in the military has risen steadily (Kelty et al., 2010), although the proportion of women is smaller than for African Americans.

The National Center for Veterans Analysis and Statistics suggested that the veteran population is expected to decrease, from 22.7 million in 2011 to 14.5 million, in 2040 and, during this same time period, the percentage of ethnic minority veterans will increase from 21% to 34% (United States Department of Veterans Affairs, 2013). When coupled with the current racial demographics of the military, this expected growth in the number of veterans of color suggests that institutions may expect growth in the number of ethnic minority veterans in the coming decades. The current study explored what, if any, role race and ethnicity has in the prediction of GPA and intent to return to the institution.

First-generation student status

First-generation students are defined as students who do not have a parent or guardian and who have completed a college degree (Ramos-Sánchez & Nichols, 2007). First-generation students cross institution-type and other social identities; however, Thayer (2000) noted that first-generation students tend to be retained at lower rates than their non-first-generation peers. Bui (2002) asserted that first-generation students tend to perform lower academically than their non-first-generation peers. Being a first generation student is not necessarily indicative of growing up in a lower socioeconomic status, but the two are correlated (Lohfink & Paulsen, 2005).

Although socioeconomic status can have a huge impact on the college experience, Wurster et al. (2010) reported that little research exists related to socioeconomic status of current military recruits as the Department of Defense stopped collecting this information in

1999. A 2007 study from the Associated Press reported that 75% of service members killed in Iraq came from home towns where the per capita income was below the national average, in which the *Los Angeles Times* labeled this phenomenon as a casualty gap (Kriner & Shen, 2010).

A study by Durdella and Kim (2012) conducted within the University of California system revealed that student veterans tended to come from families of lower income levels than their non-veteran counterparts. During pilot testing of the instrument used in the current study, participants remarked they were uncomfortable sharing income information about themselves and were often unable to provide parental income information. Since socioeconomic information was not directly assessed in the current study, the role of first-generation student status was examined to predict intent to return. Wurster et al. (2013) reported that 66% of combat veterans who responded to the National Survey of Student Engagement in 2010 reported being first-generation students. Yuengling and Kravitz (2011) posited that military service provides a way for those with low levels of income and wealth to attain a college degree which may be incentive to enlist.

Service-related injury or disability

College students with disabilities are retained at lower rates, have poorer academic performance, and can face significant barriers to college adjustment compared to peers without disabilities (Lombardi, Murray, & Gerdes, 2012). Boyraz, Horne, Owens, and Armstrong (2013) found that students with trauma experience or who are suffering from PTSD are at increased risk of college adjustment difficulty and academic challenges.

The current generation of veterans has experienced a higher rate of disability and injury than past generations of soldiers returning from combat (Kraus & Rattray, 2013).

According to Kraus and Rattray, in previous generations, the injury to casualty ratio was much lower, whereas more veterans are currently returning from war with a higher frequency of injury and service-related disabilities. Amputations are the most common physical disability connected to service although higher rates of vision and hearing loss which may be connected to traumatic brain injury (TBI) are emerging and, roughly 25% of returning veterans expected to enroll in higher education, will likely have a visible or invisible service-related disability (Kraus & Rattray).

PTSD is arguably the most researched area in the literature related to student veteran and disability (e.g., Barry et al. 2012; DiRamio & Spires, 2009; Elliott, Gonzalez, & Larsen, 2011; Ellison et al. 2012; Rudd, Goulding & Bryan, 2011; Smith-Osborne, 2009, 2012). PTSD and TBI may include symptoms such as insomnia or disrupted sleep, nightmares, pain, uncontrollable anger, anxiety, depression, flashbacks, difficulty focusing, and hyper-vigilance (Ostovary & Dapprich, 2011; Schiavone & Gentry, 2014). Rudd et al. (2011) connected the high level of individuals suffering from PTSD and other psychological concerns with a high propensity toward suicide ideation among student veterans recently returned from combat. Vacchi (2012) discussed the role of serving veterans with understanding PTSD and combat-related depression and anxiety but conjectured that the study by Rudd et al. overestimated the propensity toward suicide. In 2008, the suicide rate in the army surpassed the rate for civilians for the first time since the Vietnam war-era (Kelty, Kleykamp, & Segal, 2010). In 2013, the Department of Defense acknowledged a 54% increase in suicide of service members across all branches between 2007 and 2012 (Parks & Walker, 2014). Ostovary and Dapprich (2011) reported that roughly 14% of veterans from Operation Iraqi Freedom and Operation Enduring Freedom experienced

symptoms of PTSD. Whether PTSD manifests as disrupted sleep, depression, suicide ideation or any other symptoms described, it deeply affect a student's ability to transition successfully to a college campus.

A study by Kraus (2010) revealed that many veterans equated disability with failure or incapacity and that, within the military, it could possibly end their ability to serve. These students may be less likely to seek help (Kelley et al. 2013), especially if they perceive the campus or available counseling services do not understand or appreciate military-related service or experiences. The current study examined the presence of a service-related injury or disability as a predictive factor for intent to return and GPA.

Deployment

Over 2 million service members have been deployed since 2001, largely to Iraq and Afghanistan. Deployment experiences can impact a student's transition experience in a variety of ways. Bauman (2009) revealed that the "role incongruence" returning soldiers felt once re-immersed in a campus environment, and negatively impacted some of their social and academic interactions. DiRamio et al. (2008), and Rumann and Hamrick (2010) identified heightened benefit from and need for connection with military peers after deployment experiences. In the current study, the role of deployment status was measured as a demographic characteristic in the prediction of GPA and intent to return. Understanding that an individual's personal experience with deployment is unique, a broad understanding of this identification may provide context for how to better serve this population.

Family

Bean and Metzner (1985) argued that environmental factors such as family responsibilities are the greatest influence on non-traditional student persistence. Gilardi and Gugliemetti (2011) identified the need to strike a balance between academic identity and external commitments, such as family responsibilities, as a key challenge for non-traditional or adult students.

Whiteman et al. (2013) found that family can be the most powerful advocate and support for military and veteran students, especially those who have recently returned from deployment. While transitioning to college and managing role re-adjustment, military and veteran students with families may also be navigating a readjustment to family roles and responsibilities (Institute of Medicine, 2010; Slone, Pomerantz, & Friedman, 2009). Approximately half of participants in the current study indicated that, during their transition to the institution they had a spouse, partner or dependent children. Thus, this demographic characteristic was assessed in the current study in relation to academic success and intent to return.

Institution type

Participating institutions in this study included both two and four-year colleges and universities. In their summary of existing literature about institution type, Pascarella and Terenzini (2005) concluded that students seeking a bachelor's degree who began at a community college are at a disadvantage compared to similar students who began at a four-year institution. As a bachelor's degree is the goal for students at four-year institutions, a community college student's goals may include certificate completion and an associate

degree in addition to transferring to a four-year institution to complete a bachelor's degree (Bailey, 2012). Rumann et al. (2011) described community colleges as well-positioned to recruit and enroll student veterans because community colleges are more likely to cater to nontraditional students and offer more flexibility than four-year institutions in course delivery and program offerings for students who transition from military life. Because of the multiple institutional context of this study, the findings of the current study examined aggregate data as well as data by institution type.

Environment

Financial experiences

According to Pascarella and Tarenzini (2005), as financial aid relates to persistence, it is not that the aid is ineffective as much as it is insufficient. Institutions need to examine the financial considerations and experiences of students as they may have direct and indirect influence on the students' ability to engage socially or academically in the institution which, consequently, may affect their academic success and persistence (Pascarella & Terenzini; Renn & Reason, 2013).

The current study explored the individual financial transition experiences. Although veteran and military students have access to military educational benefits, they may lack knowledge about the processes required to access the funding which can be highly bureaucratic and often confusing (Mikelson & Saunders, 2013; USGAO, 2013). The Department of Veterans Affairs (VA) (2012) reported using multiple avenues to disseminate information to help connect veterans to information about the Post-9/11 G.I. Bill and other chapters of military educational benefits in addition to web and printed materials. Despite

this effort, the process may still be unclear as institutions coordinate processes differently and the VA offers little direct support on campus (USGAO, 2013). Military and veteran students who may expect the G.I. Bill to cover all of their expenses related to attending school may be surprised when they are required to provide the money up front when delays occur with military educational benefit processing (Mikelson & Saunders, 2013; Rumann, 2010; Steel et al., 2010; USGAO, 2013; Wheeler, 2012). DiRamio et al. (2008) conducted a study prior to the Post 9/11 G.I. Bill's implementation and, nevertheless, saw themes of financial barriers for returning student veterans, specifically related to the process for securing benefits.

The USGAO (2013) conducted a recent review of student veterans' experiences with military educational benefits. The study revealed that problems with the VA administration of benefits can create financial challenges that may have a negative impact on a student's academic success. The same study reported that the average processing time for a new benefits application is between 30-45 days and benefits payments take 22 days on average. During these delays, often students were still able to attend classes but may not have had the funds to cover rent, food, or books (USGAO).

A lack of support from the institution was evident in the lack of guidance and information available to student service-members as they navigated the infrastructure of the institution and the bureaucracy inherent in the organization's policies (Kelley et al. 2013; Rumann et al. 2011; Wheeler, 2012; Whiteman et al. 2013). Even though Post-9/11 G.I. Bill military educational benefits offer unprecedented benefits to veterans, eligibility for those programs depends on many factors including length and timing of service, geographical location and post-secondary educational decisions (Wheeler, 2012). Knowing

that the experiences with the financial transition could be critical, and that procedural delays and frustrations may hinder students, the current study explored whether students' experiences with securing military educational benefits as well as managing the financial transition are predictive of academic success and intent to return.

Academic experiences

Academic experiences of military and veteran students in transition were discussed in this study, including their experiences with academic preparation, feelings of being overwhelmed academically, and understanding of transfer credit procedures. Research on military and veteran students and academic experiences began with a discussion of dissonance. Modern learning outcomes center on cognitive maturity and critical thinking, and these outcomes are often not communicated as clear expectations (O'Herrin, 2011). A classroom environment encouraging critical and creative thinking and reflection without clear direction may create a cultural dissonance for student veterans and service members whose military training has required strict adherence to the chain of command and obeying a commanding officer (De Sawal, 2013; Jones, 2013a; Rumann, 2010; Steele, et al. 2010; Wheeler, 2012). Additionally, students may experience dissonance when the classroom environment is set up for them to learn and then go apply skills in the "real world" as an authenticated task; military and veteran students may have already applied skills in the real world and bring those experiences with them into the classroom as a reverse-authenticated task (Parks, Pikowsky, & Hayes, 2014).

Ackerman et al. (2009), DiRamio et al. (2008), and Wilson and Smith (2012) found that veterans felt underprepared for the academic rigors of college, whereas De Sawal (2013)

asserted that student veterans and service members had stronger study habits and spent an equivalent amount of time studying as their non-military peers. Wilson and Smith (2012) attributed higher levels of academic success in veterans and military students to training for carrying out a mission and applying that level or rigor to studies. Durdella and Kim (2012) found that student veterans engaged in higher levels of advanced academic behaviors (studying frequently, emailing professors, contributing to class discussions, etc.) but still had lower grade point averages than non-military peers, even when controlling for entering characteristics. This result was contrary to assertions made by other researchers who affirmed that military and veteran students out-performed their non-military peers academically. In the current study, students reported their level of academic preparedness during the transition to their institution.

Two factors emerged from existing literature—academic integration and the transfer and awarding of credit from military service. In the current study, both areas' predictive power were explored by examining the relationships between successful academic integration and the perception of the transfer credit process with academic and intent to return outcomes. This information may enable institutions to neutralize academic barriers to a successful transition.

Academic integration

The distinctions of military organizations described by De Sawal (2013) contrasted with the academic culture. Modern learning outcomes center on cognitive maturity and critical thinking and these outcomes are often not communicated as clear expectations (O'Herrin, 2011). The classroom environment encouraging critical thinking and reflection

without clear direction may create a cultural dissonance for student veterans and service members whose military training required strict adherence to the chain of command and obeying the commanding officer (De Sawal, 2013; Rumann, 2010; Steele et al., 2010; Wheeler, 2012). The concern should not be that military and veteran students are unable to think critically, but that they are emerging from a culture where following orders without question could be a function of survival, and that socialization process will shape their approach to academic work but may not be appreciated by faculty.

Transfer and awarding of credit

Military personnel and veterans transferring military credit may encounter difficulty regarding how institutions interpret and apply credit (Boerner, 2012; Brown & Gross, 2011; Mikelson & Saunders, 2013; Vacchi, 2012). Cook and Kim (2009) found that nearly 75% of institutions award credit for military experience but the way this is applied (elective versus core credits) may lead to barriers for students. DiRamio et al. (2008) found that the process for the application of credit is confusing and unclear for student veterans. Findings from a study of students at a large, public Midwestern institution mirrored these results (Williams, 2013). One student shared: “I have 6 years’ experience of aviation mechanics, hydraulics, and pneumatics and [am] pursuing a degree that involves all three. I received no credits towards my degree program” (Williams, p. 14).

Rumann and Hamrick (2010) asserted that “experiential learning credit, though only elective, may validate out-of-class learning and help offset academic delays caused by activations and deployments” (p. 451). Veterans who are not able to receive adequate credit for experiences and courses completed in the military may perceive their coursework is

redundant and are less motivated to continue (Boerner, 2013). Carne (2011) referred to this in terms of culture shock, more specifically *re-licensing shock* when professional training or qualifications are not accepted. Institutions cited concerns about program prestige and rigor, and the lessening of program quality and faculty concerns over awarding *applied* credit for *theoretical* knowledge (Snead & Anderson, 2010).

Personal experiences

Personal experiences in the current study were examined through students' perceptions of the environment and their experience with belonging in the institution environment. Rendón's (1994) validation theory highlighted how institutional agents (faculty and staff) who act to support a student can validate their experiences, leading to a more positive perception of the environment and higher probability of success. Many military and veteran students re-enrolling or entering an institution directly after service view higher education and its related campuses as anti-veteran and an unwelcoming environment (DiRamio, Ackerman & Mitchell, 2008).

Relationships

Although relationships may be social or professional, one's personal connection to members of a community has a consistently important role in student success and persistence (Pascarella & Terenzini, 2005). According to Pascarella and Terenzini, research has consistently revealed that contact with faculty members outside of the classroom promotes academic success and persistence. The authors further summarized that perceptions of faculty availability and interest in students may be enough to promote this same results. In a study of students of color and others perceived of as at-risk populations, Laskey and Hetzel

(2011) found that students who developed relationships with peers, tutors, faculty, staff advisors or other members of the institution community had a positive impact on retention. According to Astin (2003), a student's peer group is the single most important source of development for undergraduates. Tinto (1999) attributed these gains to the student feeling a sense of belonging which subsequently leads to gains in self-efficacy and ability to do well academically.

The current study examined the relationship experiences and factors that may influence the successful transition of veteran and military students. During their initial transition to college, veterans and military personnel returning from combat may experience feelings of isolation, especially if adapting to civilian life at the same time (Brown & Gross, 2011; Burnett & Segoria, 2009; Mikelson & Saunders, 2013). Although support from non-campus entities, like friends and family, has been shown to be beneficial, a lack of connection on campus may negatively affect a student's transition and persistence (Whiteman et al. 2013). DiRamio and Jarvis (2011) argued that "lack of real connectedness in the college environment for student veterans may be tantamount to having safety and physiological needs such as financial stability and good health unmet, leading to feeling isolated, disconnected and needing to just blend in" (p. 26).

A study by Rumann (2010) revealed that participants perceived their peers were ambivalent toward their military status. Students in this population often reported feeling a disconnection between themselves and their non-military peers who may not have the same level of maturity or realistic operationalization of the operations in the Middle East (DiRamio & Jarvis, 2011; Rumann et al. 2012). A student from the 2013 pilot study shared:

Students especially have no clue how to interact with veterans. I can count over 50 times I've been asked ridiculously insensitive questions like, "have you killed someone," "is it like a video game," "you'll [probably] have trouble with this since the military isn't very educated," and other stupid questions and comments (Williams, 2013, p. 17)

This kind of reaction from peers has been cited repeatedly in qualitative studies of military and veteran students (e.g., Bauman, 2009; DiRamio et al. 2008; Livingston et al. 2011; Rumann & Hamrick, 2010). Campus connections with fellow veterans and service members can provide a conduit to the concepts of team and connectedness woven throughout military training (DiRamio et al. 2008; DiRamio & Jarvis, 2011; Rumann & Hamrick, 2009). *Student Veterans of America* chapters have grown at college and universities across the country in recent years, providing an organizational framework for veterans to gather (Rumann et al. 2011). Whiteman et al. (2013) found that an increase in emotional support from peers is related to a smoother academic adjustment and positive mental health. The current study explored how current military and veteran students experience the social transition to their institution.

Relationships with peers and faculty or staff during military and veteran student's transition to their institution was also be examined. Peer connection and support is a vital component of military for veteran students transitioning to the institution, specifically if they are coming to the institution immediately following separation from military service (Jones, 2013a). In validation theory, Rendón (1994) outlined how validating agents (campus faculty and staff) are charged with reaching out to students to form connections and to validate the student's presence. Jones' (2013a) study of student veterans in transition

revealed that students expressed a need for a campus veteran services office and that services needed to be readily available for students in transition. The current study explored the relationships that helped to predict academic success and intent to return for students in transition.

Summary

The review of literature provided context for the current study related to military and veteran students. Astin's (1993) I-E-O conceptual model was introduced as a framework for the study, and the Student Veteran Academic and Social Transition Model (Livingston et al., 2011) as the theoretical framework providing an explanation for each factor as an appropriate lens through which to view this study. The input, environment, and outputs of the model used in this study were explored based on existing literature to establish the importance for including each factor. The following chapter provides an explanation of the methodology applied in the current study.

CHAPTER 3. METHODOLOGY

Chapter 3 provides a review of the methodology guiding the current study. It includes a defense for the use of quantitative methodology, the research design, including the instrumentation and sample, and data analysis procedures.

The purpose of this study was to identify the demographic characteristics and financial, academic and personal experiences in addition to campus relationships during military and veteran students' transitions to a college or university predict academic success and intent to return. The goals of this study were to: (a) understand the factors and experiences that predicted GPA for student veterans; and (b) ascertain how these transition experiences and factors influence continued commitment to the institution based on intent to return to the institution.

Data for this study were comprised of responses from the 2014 Iowa Survey of Military and Veteran Students (ISMVS), an instrument designed to ascertain the transition experiences and outcomes of the state's military and veteran student population. The survey was initially developed by Senia, Watson, and Williams (2012) and adapted for the current study. Correlation, standard multiple regression and logistic regression analyses were used. The study was approved by the Iowa State University Institutional Review Board (IRB). A copy of the approval is included in Appendix A.

Inquiry Paradigm

This study followed a quantitative emphasis in data collection and analysis and assumes post-positivist viewpoints. According to Creswell (2014), characteristics of this paradigm include: (a) knowledge is conjectural; (b) research is viewed as the process of

making claims and then accepting or abandoning them; (c) data, evidence and rational considerations shape knowledge; (d) research seeks to develop statements that can explain situations or that describe causal relationships; and (e) being objective is essential.

In this study, the researcher role was that of the objective outsider. Data were collected and analyzed using quantitative methods, and there was no interaction between the researcher and survey participants. Hoy (2010) posited that objectivity paired with rigorous, controlled and empirical tests leads to knowledge. The goal of this study was to describe the relationships and predictive power of transitional factors and experiences on the academic success of military and veteran students using regression techniques.

Research Questions

The following research questions were addressed in this study:

1. What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences, campus relationships and GPA for military and veteran students?
 - 1a. What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences and campus relationships and GPA for military and veteran students attending community colleges?
 - 1b. What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences and campus relationships and GPA for military and veteran students attending four-year institutions?

2. Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predict cumulative GPA for military and veteran students?
 - 2a. What influence did factors have in predicting GPA for students attending community colleges?
 - 2b. What influence did factors have in predicting GPA for students attending four-year institutions?
3. Did demographic characteristics, financial, academic and personal experiences, and campus relationships predict intent to return to the institution for the following semester for military and veteran students?
 - 3.a What influence did factors have in predicting intent to return for students attending community colleges?
 - 3b. What influence did factors have in predicting intent to return for students attending four-year institutions?

Design

This research utilized a cross-sectional, non-experimental survey design with data collected at one point in time across the selected population (Creswell, 2014). Thompson and Panacek (2007) posited that non-experimental designs are often retrospective because participants are reflecting on their experience and there is no ability for the researcher to randomly assign participants to treatment groups. Although previous qualitative studies of military and veteran students have provided rich insight into the experiences of students, the bulk of quantitative studies about and around military and veteran students have focused

solely on mental health, specifically PTSD (Whiteman et al. 2013). Few of these studies examined large numbers of students or factors related to transition beyond PTSD. Cate (2014) and the *Student Veterans of America* completed a quantitative, nationwide study on student veteran outcomes in education including retention and graduation but not on transition experiences. Survey design was the preferred methodology for this study because a survey can be distributed, collected, and the data prepared for analysis in a timely manner to provide feedback efficiently to the client, especially with a web-based survey (Dillman, Christian & Smythe, 2009).

Population and Sample

The setting for this study was across one Midwestern state. Thirteen higher education institutions participated in the study and the institutions represented a variety of institution types and sizes. The four-year institutions included two research universities whose military and veteran population ranged from 1.3% to 1.8% of the undergraduate population, two masters-level institutions whose military and veteran undergraduate population ranged from 1.7% to 3.2%, and two baccalaureate colleges with military and veteran populations ranging from 1.6% to 5.5% of the undergraduate population. The four-year institutions included both private and public institutions. The two-year institutions included seven community colleges with military and veteran populations ranging from 1.4% to 3.5% of the student body. All institutions were geographically spread across the state. The Midwestern state was selected due to convenience and proximity to the researcher, and because this state has seen tremendous growth in military and veteran students with the

population quadrupling in the last decade (United States Department of Veterans Affairs, 2011).

The sample for this study included all undergraduate military and veteran students who were enrolled in one of the 13 institutions and identified as military personnel or veterans of the U.S. Armed Forces. The participants who were included in the sample had registered to receive military educational benefits with the institution or self-identified as military personnel or a veteran on their application for admission or with their institution's veterans services coordinator. Students who entered the institution as both full- and part-time undergraduates were invited to participate. The survey was distributed during the 2014 spring semester to 2,408 students.

Instrumentation

Data for this study were collected using the Iowa Survey of Veteran and Military Students (ISVMS) and disseminated during the first week of February in 2014. The ISVMS was developed and piloted by Senia, Watson, and Williams (2013) in cooperation with the pilot institution's veterans center in spring 2013. The purpose of that study was to assess the transition experiences, concerns and barriers for military, veteran and military dependent students at one institution in an attempt to improve services for these students.

ISVMS validity

Focus groups and expert review were utilized to assess the validity of the instrument. Groves et al. (2009) recommended the use of focus groups and expert review to assess question efficacy. The ISVMS was reviewed by an expert in military and veteran student experiences on campus. The survey instrument was also tested with the local student

veteran organization who participated in a focus group to provide feedback on the instrument and review question efficacy prior to the survey's launch. Creswell (2014) stressed the importance of pilot-testing a survey to establish content validity and improve questions. According to Creswell, content validity examines the extent to which items measure the content they were intended to measure. The expert review and focus group participants were able to share how they interpreted questions, and their interpretations were largely in line with the intent of the survey questions. Questions that were consistently misinterpreted were re-worded with the advice of the focus group.

ISVMS reliability

Cronbach's alpha score is provided as a measure of internal consistency and reliability for each construct. Nunnally (1978) asserted that reliability scores of 0.70 are acceptable in the early stages of survey research. Lance, Butts, and Michels (2006) summarized Nunnally's assertions about reliability scores that 0.80 is a cut-off for widely used surveys and 0.90 or 0.95 should be the cut-off for highly applied testing situations. The 0.70 score was used as the cutoff in this study since the survey instrument was still in the early stages of development and not yet widely used. It is important to note that Cronbach's alpha is a measure of the internal consistency among survey questions designed to measure the same construct (Trobia, 2008). The demographic and relationship experiences constructs of the survey were not measured for internal consistency because they contain items of a demographic nature. The financial experience construct contained 5 items ($\alpha = .80$), the academic integration construct contained 3 items ($\alpha = .71$), the academic credit

transfer/awarding construct contained 3 items ($\alpha = .78$), and the personal experiences construct contained 5 items ($\alpha = .91$).

Data Collection

A gatekeeper (veterans services coordinator) was identified at each institution through a statewide organization comprised of military and veteran student services professionals. The institutional gatekeeper sent an invitation email to all currently enrolled undergraduate students identifying as military personnel or a veteran at their institution encouraging them to participate in the study. Institutional representatives were asked to invite their students to encourage a higher level of participation based on previously established relationships with the representative or the institution. This approach was selected under the assumption that students were more likely to see a survey as legitimate if the invitation to participate came from a trusted source or someone affiliated with the institution (Gansemer-Topf & Wohlgemuth, 2009). Additionally, the opportunity to impact institutional change can serve as a motivating factor for students in their decision of whether or not to complete an online survey (Dillman et al., 2009; Tschepikow; 2012). Institutional representatives were able to articulate how the results might be used to influence decisions on that campus. Arguably, campus coordinators who may have had personal or electronic communication with students could expect more trust than a stranger from another institution. The invitation to students included a link to the online survey through *Qualtrics*TM, and two to three reminder emails were sent to students from their local veterans services coordinator.

Variables

This study focused on the reported characteristics, experiences and outcomes reported by participants in the 2014 ISMVS. Table 1 lists the dependent variables used in this study. Prior to performing the regression analyses, confirmatory factor analysis was performed to examine the relationship between observed measures and model factors (Brown & Moore, 2014). All items were significant at the $p < 0.05$ level and were included in the analyses.

Table 1. Dependent variables

Variable	Code	Key	Research Question
Current cumulative GPA	GPACURR	Continuous, 0.0 to 4.0	Q1 and Q2
Intent to return	RETURN	1= Yes; 0 = No	Q3

Dependent variables

Two questions in the survey related directly to academic outcomes and one directly related to intent to return to the institution. The results from these three questions represent the two dependent variables represented in each of the three research questions: current cumulative GPA and intent to return to the intuition.

As discussed in the review of literature, military and veteran students have been shown to both underperform and outperform non-military peers. To answer Research Questions 1 and 2, the continuous variable of cumulative GPA served as the dependent variable. This variable was self-reported by students because of the anonymous nature of the survey and responses could range from 0 to 4.0. In examining Research Questions 1 and 2, participants were identified as having completed at least one semester at the institution as students in their first semester did not have had a cumulative GPA at the time of the

survey. To examine Research Question 2b and 2c, participants were identified as a community college student or four-year institution students.

To examine Research Question 3, the dependent variable intent to return was used. Initially this is a binary variable with two levels of response: “yes” or “no”. A follow-up question asked the participant to indicate the reason for responses. Those indicating plans to not return because of graduation or program completion were removed prior to analysis addressing Research Question 3. These participants were removed from the dataset prior to analysis because their intent to not return would not signify a lack of retention but a result of program completion. If a participant indicated they were not planning to return but also were not graduating, they were asked for a reason. No participants indicated planned departure because of military service.

Both dependent variables were self-reported. Given the anonymous nature of the survey, participants were asked to share their own academic success and intent to return to the institution versus the researcher corroborating these reports with the institution. According to Gonyea (2005), self-reported data through survey responses can be the only practical or cost-effective option for collecting data. The National Survey of Student Engagement (NSSE, n/d) shared that self-reports are likely to be valid if:

- 1) The information requested is known to the respondents;
- 2) The questions are phrased clearly and unambiguously;
- 3) The questions refer to recent activities;
- 4) The respondents think the questions merit a serious and thoughtful response;
- 5) Answering the questions does not threaten, embarrass, or violate the privacy of the respondent or encourage the respondent to respond in socially desirable ways. (p. 1)

Kuncel, Credé, and Thomas (2005) posited that students with lower academic skills tend to overestimate GPA more so than students with higher academic skills, but concluded that self-reported grades generally predict outcomes similarly to actual grades in a meta-analysis of the reliability of self-reported GPA in research. Although intent to return is not necessarily the same as retention, it is an accurate assessment of how an individual student perceives their academic journey and speaks to intent.

Independent variables

There were five independent variables in the study: (1) demographic characteristics; (2) financial experiences; (3) academic experiences; (4) personal experiences; and (5) relationship experiences. Table 2 lists the independent variables used in this study.

Demographic characteristics

To answer each of the research questions, independent variables were used that align with either demographic characteristics, transition experiences with financial, personal or academic factors or relationships with different campus entities during transition.

Demographic independent variables included sex (SEX), race or ethnicity (RACE), first-generation student status (FGEN), deployment experience (DEPLOY), service-related injury or disability (INJURY), and having a spouse/partner or dependent children during transition (FAMILY). Institution type (TYPE) and whether or not the institution is private (PRIVATE) are also included as appropriate for the research question.

Table 2. Independent variables

Factor	α	Variable	Code	Key
Demographic characteristics	N/A	Sex ^a	SEX	1 = female; 0 = male
		Race ^b	RACE	1 = non-White; 0 = White
		First generation	FGEN	1 = yes; 0 = no
		Combat deployment experience	DEPLOY	1 = yes; 0 = no
		Service-related injury/disability	INJURY	1 = yes; 0 = no
		Spouse/Dependent Children	FAMILY	1 = yes; 0 = no
		Institution Type	TYPE	1 = community college; 0 = 4-year institution
		Private Institution	PRIVATE	1 = yes; 0 = no
		Semesters completed	SEMCOMP	Continuous
Financial experiences	0.80	Understood the process for securing MEB	FUNDERSTOOD	1 = SD; 2 = D; 3 = A; 4 = SA ^c
		Process for securing MEB was hassle-free	FHASSLEF	1 = SD; 2 = D; 3 = A; 4 = SA
		MEB were sufficient to cover needs	FCOVER	1 = SD; 2 = D; 3 = A; 4 = SA
		The process for securing MEB was what I expected	FEXPECT	1 = SD; 2 = D; 3 = A; 4 = SA
		Determining MEB eligibility was hassle-free	FDETERMINE	1 = SD; 2 = D; 3 = A; 4 = SA
Academic Experiences:	0.71	Felt academically prepared to enter the institution	AIPREP	1 = SD; 2 = D; 3 = A; 4 = SA
		Academic Integration	AIOVERW*	1 = SD; 2 = D; 3 = A; 4 = SA
		Experience meeting professor's expectations	AIEXPECT*	1 = No frustration; 2 = Some frustration; 3 = High frustration
Academic Experiences: Credit Transfer/Awarding	0.78	Understood process for military credit transfer	ACUNDERSTOOD	1 = yes; 0 = no
		Level of satisfaction with credit application	ACSATISFIED	1 = Very dissatisfied; 2 = Dissatisfied; 3 = Satisfied; 4 = Very satisfied
		Experience obtaining credit for military service	ACOBTAI*	1 = No frustration; 2 = Some frustration; 3 = High frustration

Table 2. (Continued).

Personal experiences	0.91	Instructors valued the life and work experiences gained from military service	PVALUE	1 = SD; 2 = D; 3 = A; 4 = SA
		Felt like an important member of the community	PFELT	1 = SD; 2 = D; 3 = A; 4 = SA
		Institution was welcoming for military and veteran students	PWELCOME	1 = SD; 2 = D; 3 = A; 4 = SA
		Institution was well-prepared to assist military and veteran students	PPREP	1 = SD; 2 = D; 3 = A; 4 = SA
		Institution cared about military and veteran students	PCARED	1 = SD; 2 = D; 3 = A; 4 = SA
Relationship experiences	N/A	Relationship with fellow military and veteran students	RMILSTU	1 = yes; 0 = no
		Relationship with Veteran staff	RVSTAFF	1 = yes; 0 = no
		Relationship with Faculty	RFAC	1 = yes; 0 = no
		Relationship with Academic adviser	RADV	1 = yes; 0 = no

Notes: *reverse coded item

^aAn option was provided for participants to report that they do not identify as exclusively male or female; no participants selected this option.

^bRace and ethnicity was collected using categories outlined by the U.S. census; however, non-white is grouped together for the purposes of analysis because of small numbers amount individuals reporting non-white race/ethnicity.

^cSD=strongly disagree; D=disagree; A=agree; 4 = strongly disagree

Financial experiences

Financial experience independent variables included: level of understanding of the military educational benefits process (FUNDERSTOOD); how hassle-free the process for securing military educational benefits was (FHASSLEF); if the process for securing military educational benefits was what the student expected (FEXPECT); how hassle-free the process of determining military educational benefit eligibility was hassle-free; and how sufficient military educational benefits covered the student's needs (FCOVER).

Academic experiences

Academic experience variables were divided into two constructs: academic integration and the awarding and application of transfer credit, based on the existing literature. Academic integration included: how academically prepared the student felt to enter the institution (AIPREP); how overwhelmed the student felt academically during the first semester (AIOVERW); and the experience of meeting professors' expectations (AIEXPECT). The awarding and application of transfer credit included: level of understanding of the military transfer credit process and (ACREDP); satisfaction with the credit applied (ACSATISFIED); and experience obtaining credit for military service.

Personal experiences

Personal transition experience variables related to participant perception of campus environment. These variables included: the level that military and veteran students felt like an important member of the institution community (PFELT); how much they perceived the institution to care about students with military experience (PCARED); how welcoming they found their institution to be for military and veteran students (PWELCOME); how well-prepared they felt campus resources were to assist military and veteran students (PPREP); and how much they felt instructors valued military experience (PVALUE).

Relationships

Finally, relationship variables included: the existence of relationships with fellow military and veteran students (RMILSTU); faculty (RFAC), adviser (RADV); and veteran or military-specific staff including veteran center or office staff and veteran's certifying officials (RVSTAFF). As discussed in the review of literature, these variables were logical

predictive factors to explore in examining the academic and intent to return dependent variables.

Missing Data

Prior to analysis, data were reviewed for missing data and to test assumptions of each statistical method. Missing data were managed utilizing multiple imputation practices through *Stata*TM version 13. In this analysis, missing data were managed using multiple imputations to maintain the statistical power of the data. Imputing data is a common practice in social science research to utilize complete data methods of analysis (Durrant, 2005; Patrician, 2002; Schafer & Graham, 2002). In survey research, analysis of data without imputation requires the deletion of cases, which could lead to decreased statistical power (Cox, McIntosh, Reason, & Terenzini, 2014).

Multiple imputation involves three steps to provide valid inference in situations where data are missing or incomplete (Harel & Zhou, 2007; Schafer & Graham, 2002; White, Royston, & Wood, 2009). First, M datasets are created using a multivariate or logistic imputation model to generate responses for missing data; second, the logistic regression analysis is performed on each dataset separately; and third, the results from each dataset's analysis are combined into one analysis and reported (Harel & Zhou; White et al., 1989).

Multiple imputation reduces bias resulting from deleting cases with incomplete data (Penn, 2007). Missing data in this study were analyzed and because the data fit the missing at random (MAR) assumption. According to Penn, the MAR holds that the probability of variable Y missing was not related to the variable Y itself. When the MAR is met, multiple imputation requires generating more than one estimate for each missing value, using those

estimates to create multiple sets of the data, regressing each of those data sets and then combining the multiple data sets to create one (Penn). The number of data sets, or imputations, is determined based on the number of missing values and, although 3-10 imputation was initially thought to be sufficient, more recent researchers have argued that more imputations provide more accurate results (Graham, Olchowski, & Gilreath, 2007); in this analysis, $M=20$. A summary of missing data is provided in Appendix B.

Multiple imputation presents a unique concern when performing logistic regression in that traditional fit statistics (likelihood ratio test statistic, model chi-squared statistic and classification tables, etc.) cannot be used with multiple imputation (Manly & Wells, 2012). According to Manly and Wells, because multiple imputation approximates a model for each variable separately, most goodness of fit measures are not useful as they examine multiple variables simultaneously.

Manly and Wells (2012) recommended comparing the regression results after multiple imputation and traditional imputation to determine if they produced similar results. If so, they stated that reporting the fit statistics using the traditional method would be appropriate. The mean was historically perceived to be a reasonable substitution guess of a value for randomly selection observation (Acock, 2005), although scholars now caution against solely using mean substitution as it may bias results toward the center. In the logistic regression analysis in this study, both multiply imputed data and mean imputed data were performed and analyzed.

Data Analysis

Prior to data analysis, data were coded as summarized in Table 2, and missing data imputed prior to regression analysis in *Stata*TM version 13. Descriptive and inferential statistics were used to make inferences about the relationship between demographic characteristics, transition experiences and relationships, and GPA and intent to return. The following sections include a discussion of analysis used to answer each research question.

Research Question 1

Research Question 1 sought to determine what relationships existed between study factors (demographic characteristics, institution type, financial, academic, personal, and relationship experiences) and GPA for military and veteran students. For Research Question 1a, community college students beyond their first semester were included in analysis and, in Research Question 1b, four-year institution students beyond their first semester were included in the analysis.

To answer this question, correlation analysis was used to generate a Pearson correlation coefficient between each item and GPA. Correlation measures the linear relationship between variables providing indicators of direction and strength between two variables (De Veaux, Velleman, & Bock, 2012). When using correlation, three conditions and assumptions must be checked: (a) that quantitative variables condition, (b) the straight enough condition, and (c) the outlier condition. Correlation in this study was done only using quantitative data which meet assumption a. The straight enough assumption (the assumption that the relationship between variables is linear) and the outlier assumption (the

assumption that outlying data are now skewing the relationship between variables) were checked using scatterplots as recommended by De Veaux, et al.

Research Question 2

Ordinary least-squares (OLS) regression was used to determine if current cumulative GPA was predicted by demographic characteristics, transition experiences or relationships. OLS regression, at the basic level, determines the relationship between dependent variable (Y) and explanatory independent variables ($X, X_1, X_2 \dots X_k$) and is one of the major techniques used in data analysis (Hutcheson, 2011). In Research Question 2, GPACURR represented Y and study factors represented the independent variables. In this question, all students beyond their first semester were included. Participants were removed who identified as first-semester students without a cumulative GPA. For Research Question 2a, only community college students beyond their first semester were included in analysis and, in Research Question 2b, only four-year institution students beyond their first semester were included in the analysis.

Multivariate OLS regression analysis requires that certain assumptions be met: (a) the distribution of responses be normal; (b) variables are linearly related; and (c) homoscedasticity is present (Stock & Watson, 2011). The assumptions of normality were checked using histograms of the residuals (Stevens, 2002). Stevens asserted that linearity can be assessed by graphing the standardized residuals versus expected values; if the standardized residuals scatter randomly, then the assumption is met. The assumption of homoscedasticity was checked for by examining variation in residuals (Salkind, 2010).

To avoid multicollinearity, items within each construct were tested for correlation. If items had a correlation of .70 or higher, the items were removed from the model to avoid multicollinearity (Kohler & Kreuter, 2009). Influential cases have the capacity to influence the regression results. In this analysis, influential cases were identified using Cook's D to estimate the effect of one observation on all regression coefficients simultaneously (Fox, 1991).

In regression, independent variables were included in the regression model to assess influence on the dependent variable. This study utilized OLS regression to assess the relationship between demographic characteristics, personal, financial and academic and relationship experiences during transition with current GPA for participants. Those items with a p level less than to 0.05 were labeled as significant. In educational and social research, a 0.05 significance level is appropriate (Stevens, 2002).

The final model was:

$$\text{GPACURR} = \beta_0 + \beta_{\text{demographics}_{1,2\dots 8}} + \beta_{\text{financial factors}_{1,2\dots 5}} + \beta_{\text{personal factors}_{1,2\dots 5}} + \beta_{\text{academic integration factors}_{1,2,3}} + \beta_{\text{academic credit factors}_{1,2,3}} + \beta_{\text{relationships}_{1,2\dots 4}} + e_i$$

Usually in multiple regressions, the R^2 and adjusted R^2 statistic are provided as a measure of model fit (El-Habil, 2012). While R^2 is the percent of variability accounted for by the regression model, the adjusted R^2 allows for the inclusion of multiple predictor variables without over-inflating the amount of variability explained by the model (Salkind, 2010; Stock & Watson, 2011). Because this study utilized multiple imputation to manage missing data, the mean R^2 and mean adjusted R^2 from all imputations were shared to illustrate the amount of variance in intent to return explained by the model. Because of the

limitations around multiple imputation and goodness of fit tests, the metric is appropriate (e.g., Hoepfner, Kelly, Urbanoski, & Slaymaker, 2011; Penn, 2009; Rojewski & Lee, 2012; Surette, 1999). Manly and Wells (2012) explained that multiple imputation approximates a model for each variable separately and that most goodness of fit measures examine multiple variables simultaneously.

Research Question 3

Research Question 3 inquired if study factors (demographic characteristics, financial, academic, personal, and relationship experiences) predicted intent to return to the institution. Logistic regression was used to determine the variability in whether or not a student planned to return to the institution. Independent variables in this regression model included the demographic, financial, personal, academic, and relationship factors (see Table 2). Regression enables researchers to develop an understanding of the relationship between variables and post the direction and the importance (Stock & Watson, 2011). Logistic regression requires that the dependent variable, such as intent to return, be dichotomous (De Veaux, Velleman, & Bock, 2011; Peng, Lee, & Ingersoll, 2002). Since the dependent variable was intent to return responses where the participants reported that they were not returning but were planning to graduate were not included. For Research Question 3a, only community college students were included in analysis and, in Research Question 3b, only four-year institution students were included in the analysis.

Logistic regression does not require that predictor variables are normally distributed but assumes that the binomial distribution describes the distribution of errors (Peng et al. 2002). This assumption was tested using the normal z test as recommended by Peng et al.

Influential data points are those that heavily influence the coefficients of a regression model. Kohler and Kreuter (2009) recommended using the approximate predicted leverage values to obtain standardized residuals as an approximation of discrepancy. The results were graphed with the leverage values to determine linearity. Multicollinearity was tested by examining the correlations between inter-construct items as described in the discussion of multivariate regression.

The formula for the logistic regression was:

$$\text{logit}(\text{Intent to Return}) = \beta_0 + \beta_{\text{demographics}_{1,2\dots 8}} + \beta_{\text{financial factors}_{1,2\dots 5}} + \beta_{\text{personal factors}_{1,2\dots 5}} + \beta_{\text{academic integration factors}_{1,2,3}} + \beta_{\text{academic credit factors}_{1,2,3}} + \beta_{\text{relationships}_{1,2\dots 4}}$$

where β_0 is the intercept parameter and β are the coefficients for the independent variables (Peng, n/d).

The odds ratios were reported. The odds ratio is an indicator of the constant effect the independent variable has on one outcome of the dependent variable. For example, if the odds ratio of sex was 1.38, it would be interpreted as the odds of a female intending to return being 1.38 times greater than that of a male.

The average relative variance increase (RVI) was shared. The RVI indicates how much the variance in coefficient estimates increased due to missing values (UCLA, 2007). Because of the limitations around multiple imputation and goodness of fit tests (e.g., Hoepfner, Kelly, Urbanoski, & Slaymaker, 2011; Penn, 2009; Rojewski & Lee, 2012; Surette, 1999), results of the Hosmer and Lemeshow goodness of fit test was reported as recommended by Peng, Lee and Ingersoll (2002). The percentage of cases correctly classified was also reported.

Summary

Chapter 3 described the methodology for the study including the inquiry paradigm, and method considerations including the cross-sectional survey design and the population of interest. The sample included participants who completed the 2014 Iowa Survey of Military and Veteran students who were encouraged to complete the survey by institutional representatives. Data analysis plans were described including the use and assumptions of correlation analysis, OLS multivariate regression, and logistic regression. Finally, a plan for managing missing data through multiple imputation was described.

CHAPTER 4. RESULTS

The purpose of this study was to identify the demographic characteristics, financial, academic and personal experiences and campus relationships during military and veteran students' transitions to a college or university that predict grade point average (GPA) and intent to return. The purpose was also to present findings that may enable two- and four-year institutions who serve military and veteran students.

This study was based on one primary question: What factors influenced the academic success and persistence of military and veteran students during their transition? This broad question was divided into three main research questions. Research Question 1 examined the relationships that existed among demographic characteristics, institution type, financial, academic and personal experiences, campus relationships and GPA for military and veteran students. Research Question 2 probed whether demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predicted cumulative GPA for military and veteran students across the whole sample, and then within institution type. Research Question 3 explored if demographic characteristics, financial, academic and personal experiences, and campus relationships predict intent to return to the institution for the following semester for military and veteran students across the entire sample, and then within institution type.

Chapter 4 presents the findings of the current study. Specifically, correlation results and the findings of the multiple and logistic regression analyses are shared.

Research Question 1: What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences, campus relationships and GPA for military and veteran students?

The dependent variable, current cumulative grade point average (GPACURR) was correlated with the demographic variables (SEX, RACE, FGEN, DEPLOY, INJURY, FAMILY, SEMCOMP, TYPE, and PRIVATE when applicable), financial variables (FUNDERSTOOD, FHASSLEF, FCOVER, FEXPECT, FDETERMINE), academic variables (AIPREP, AIOVERW, AIEXPECT, ACUNDERSTOOD, ACSATISFIED, ACOBTAIN), personal variables (PVALUE, PFELT, PWELCOME, PPREP, PCARED), and relationship variables (RMILSTU, RVSTAFF, RFAC, RADV). Because this analysis required participants to have a cumulative GPA, 77 participants who were in their first term were removed prior to correlation analysis. The Pearson's Correlation Coefficient for each variable is included in Table 3.

When all participants responses were examined, six correlation coefficients were statistically significant at the $p < 0.05$ level: identifying as non-white, higher level of frustration meeting professor's academic expectations, stronger agreement that they felt academically overwhelmed, having a spouse and/or dependent children, stronger agreement that they felt academically prepared to enter the institution and stronger agreement that their professors valued their military experience. Three variables had a negative relationship with cumulative GPA: identifying as non-white ($r = -.11$), higher level of frustration meeting professor's academic expectations ($r = -.25$) and stronger agreement that they felt academically overwhelmed ($r = -.23$). Three variables had a positive relationship with cumulative GPA: having a spouse and/or dependent children ($r = .19$), stronger agreement

Table 3. Correlations between cumulative GPA and study factors

Variable	All Participants (N=482)	Community College (n=208)	Four-Year Institutions (n=274)
SEX	0.04	0.02	0.05
RACE	-0.11*	-0.12	-0.10
FGEN	-0.00	-0.02	0.01
DEPLOY	0.01	-0.08	0.08
INJURY	-0.06	0.01	-0.11
FAMILY	0.19**	0.19**	0.19**
SEMCOMP	0.08	0.11	0.07
TYPE	0.03	-	-
PRIVATE	-	-	0.28***
FUNDERSTOOD	0.00	0.01	-0.00
FHASSLEF	-0.01	0.00	-0.02
FCOVER	0.04	-0.07	0.12
FEXPECT	0.02	0.07	-0.02
FDETERMINE	-0.05	-0.03	-0.07
AIPREP	0.27***	0.18*	0.32***
AIOVERW^	-0.23***	-0.19**	-0.26***
AIEXPECT^	-0.25***	-0.16*	-0.31***
ACUNDERSTOOD	0.07	0.05	0.07
ACSATISFIED	0.11	0.04	0.15*
ACOBTAI^	0.01	0.15	-0.11
PVALUE	0.13*	0.06	0.18**
PFELT	0.08	0.10	0.07
PWELCOME	0.05	0.04	0.07
PPREP	0.05	0.06	0.04
PCARED	0.08	0.07	0.08
RMILSTU	0.01	0.00	-0.02
RVSTAFF	-0.01	0.09	-0.04
RFAC	0.04	0.08	0.02
RADV	-0.01	0.05	-0.05

Notes. ^ Reverse-coded item; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

that they felt academically prepared to enter the institution ($r = .27$) and stronger agreement that their professors valued their military experience ($r = .13$).

Research Question 1a: What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences, campus relationships and GPA for military and veteran students attending community colleges?

When only community college participant responses were examined, four correlation coefficients were statistically significant at the $p < 0.05$ level: higher level of frustration meeting professor's academic expectations, stronger agreement that they felt academically overwhelmed, having a spouse and/or dependent children and stronger agreement that they felt academically prepared to enter the institution. Two variables had a negative relationship with cumulative GPA: higher level of frustration meeting professor's academic expectations ($r = -.16$) and stronger agreement that they felt academically overwhelmed ($r = -.19$). Two variables had a positive relationship with cumulative GPA: having a spouse and/or dependent children ($r = .19$) and stronger agreement that they felt academically prepared to enter the institution ($r = .18$).

Research Question 1b: What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences, campus relationships and GPA for military and veteran students attending four-year institutions?

When only four-year institution responses were examined, seven correlation coefficients were statistically significant at the $p < 0.05$ level: higher level of frustration meeting professor's academic expectations, stronger agreement that they felt academically overwhelmed, having a spouse and/or dependent children, attending a private institution, stronger agreement that they felt academically prepared to enter the institution, stronger agreement that their professors valued their military experience and level of satisfaction with how military credits were applied to their degree. Two variables had a negative relationship

with cumulative GPA: higher level of frustration meeting professor's academic expectations ($r = -.31$) and stronger agreement that they felt academically overwhelmed ($r = -.26$). Five variables had a positive relationship with cumulative GPA: having a spouse and/or dependent children ($r = .19$), attending a private institution ($r = .28$), stronger agreement that they felt academically prepared to enter the institution ($r = .32$), stronger agreement that their professors valued their military experience ($r = .18$), and level of satisfaction with how military credits were applied to their degree ($r = .15$).

Research Question 2: Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predict cumulative GPA for military and veteran students?

The independent variables for this research question were demographic variables (SEX, RACE, FGEN, DEPLOY, INJURY, FAMILY, SEMCOMP, TYPE), financial variables (FUNDERSTOOD, FHASSLEF, FCOVER, FEXPECT, FDETERMINE), academic variables (AIPREP, AIOVERW, AIEXPECT, ACUNDERSTOOD, ACSATISFIED, ACOBTAIN), personal variables (PVALUE, PFELT, PPREP), and relationship variables (RMILSTU, RVSTAFF, RFAC, RADV). The dependent variable was current cumulative GPA (GPACURR). OLS multiple regression was conducted to determine the level to which the independent variables could predict GPA following multiple imputation of missing data. A summary of missing data is included in Appendix B. The results of regression analyses for this research question are presented in consideration of all participants; the results of Research Question 2a consider only those participants attending a community college, and the results of Research Question 2b include only those participants attending a four-year institution.

In this question as well as in question 2a and 2b, all students beyond their first semester were included; 45 participants were removed who identified as first-semester students without a cumulative GPA. Homoscedasticity assumptions were met and right skewed variables did not need to be transformed with a logarithmic transformation (Kohler & Kreuter, 2009). Thirty-three cases met the $4/n$ cutoff for Cook's D and were removed prior to analysis. Prior to analysis, variables PWELCOME and PCARED were removed from the personal transition construct due to high inter-item correlation ($r = .78$). The linearity assumption was met, so independent variables were not transformed (Kohler & Kreuter, 2009). After these steps, 481 cases remained in the dataset for analysis.

The variables predicted a significant proportion of variability in cumulative GPA for all participants, $R^2_{adj} = 0.20$, $F(28, 431.1) = 3.97$, $p < 0.001$. Table 4 includes a summary of the model.

Table 4. Model summaries for predicting cumulative GPA

	Avg. R^2	Avg. R^2_{adj}	Avg. RVI	F	$df1$	$df2$	p
All Participants	0.24	0.20	0.27	3.97	28	431.1	0.000
Community College Participants	0.37	0.24	0.25	2.06	27	173.6	0.003
Four-Year Institution Participants	0.31	0.24	0.29	2.91	28	231.3	0.000

Regression coefficients indicated that six variables significantly contributed to the prediction of GPA in the model, all other factors held constant. In terms of demographic factors, identifying as non-white ($\beta = -0.25$, $t(452) = -3.03$, $p = .003$) and having a spouse and/or dependent children during the transition ($\beta = 0.18$, $t(452) = 3.13$, $p = .002$) significantly predicted cumulative GPA. Financially, experience determining military

educational benefit eligibility ($\beta = -0.08$, $t(452) = -2.20$, $p = .029$) significantly predicted cumulative GPA. Academically, experience obtaining credit for military service ($\beta = 0.13$, $t(452) = 2.23$, $p = .030$), feeling academically prepared to enter the institution ($\beta = -0.22$, $t(452) = -4.35$, $p < .001$) and experience meeting professor's academic expectations ($\beta = 0.13$, $t(452) = 3.08$, $p = .002$) significantly predicted cumulative GPA. A summary of all regression findings is included in Table 5.

Research Question 2a: Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predict cumulative GPA for military and veteran students attending community colleges?

For Research Question 2a, community college students beyond their first semester were included in analysis ($n = 212$). Multiple regression results for the model including only participants attending community colleges indicated that the model was statistically reliable in predicting GPA at the $p < 0.01$ level. The variables predicted a significant proportion of variability in cumulative GPA participants attending community colleges, $R^2_{adj} = .24$, $F(27, 173.6) = 2.06$, $p = 0.003$. Table 4 includes a summary of the model.

Regression coefficients indicated that four variables significantly predicted cumulative GPA. Demographically, identifying as non-white significantly predicted cumulative GPA ($\beta = -.35$, $t(184) = -2.87$, $p = .005$); financially, military educational benefits covering needs significantly predicted cumulative GPA ($\beta = -.12$, $t(184) = -2.20$, $p = .030$); academically, experience meeting professor's academic expectations ($\beta = -.25$, $t(184) = -2.64$, $p = .011$) and experience obtaining credit for military service ($\beta = 0.22$, $t(184) = 2.20$, $p = .036$) significantly contributed to the prediction of GPA.

Table 5. OLS regression coefficients for study factors and cumulative GPA for students at all institutions, community colleges, and four-year institutions

Variable	All Participants (N = 481)		Community College (n = 212)		Four-Year Institutions (n = 269)	
	β	Std. Err.	β	Std. Err.	β	Std. Err.
SEX	0.04	0.07	-0.00	0.11	0.04	0.09
RACE	-0.25**	0.08	-0.35**	0.12	-0.16	0.10
FGEN	0.07	0.05	0.09	0.09	0.02	0.07
DEPLOY	0.05	0.06	-0.04	0.08	0.12	0.07
INJURY	-0.07	0.05	-0.09	0.10	-0.06	0.08
FAMILY	0.18**	0.06	0.12	0.10	0.15*	0.07
TYPE	-0.06	0.06	-	-	-	-
PRIVATE	-	-	-	-	0.24**	0.08
FUNDERSTOOD	-0.02	0.04	-0.03	0.07	-0.04	0.05
FHASSLEF	0.05	0.04	0.01	0.07	0.02	0.04
FCOVER	-0.01	0.03	-0.12*	0.06	0.07	0.04
FEXPECT	-0.01	0.04	0.04	0.08	-0.03	0.05
FDETERMINE	-0.08*	0.04	0.05	0.07	-0.10*	0.04
AIPREP	0.13**	0.04	0.08	0.08	0.17**	0.05
AIOVERW^	-0.03	0.04	-0.03	0.06	-0.01	0.05
AIEXPECT^	-0.21**	0.05	-0.25*	0.09	-0.18**	0.07
ACUNDERSTOOD	0.13	0.07	0.17	0.14	0.10	0.08
ACOBTAI^	0.13*	0.06	0.23*	0.10	-0.14	0.09
PVALUE	-0.02	0.04	-0.13	0.07	0.05	0.05
PFELT	0.05	0.05	0.11	0.08	-0.02	0.08
PPREP	-0.01	0.05	-0.01	0.08	-0.06	0.08
RMILSTU	0.01	0.06	-0.00	0.10	0.02	0.08
RVSTAFF	0.00	0.06	-0.06	0.10	0.02	0.08
RFAC	0.02	0.07	0.06	0.15	-0.06	0.08
RADV	0.05	0.07	0.21	0.11	-0.01	0.10

Note. ^ indicates reverse-coded variable, *p < 0.05, ** p < 0.01.

Research Question 2b: Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predicted cumulative GPA for military and veteran students attending four-year institutions?

In Research Question 2b, four-year institution students beyond their first semester were included in the analysis ($n = 269$). Multiple regression results for the model including only participants attending four-year institutions the model predicted a significant proportion of variability in cumulative GPA for students attending four-year institutions, $R^2_{adj.} = .24$, $F(28, 231.3) = 2.91$, $p < 0.001$. Table 4 includes a summary of the model.

Regression coefficients indicated that five variables were significant predictors of cumulative GPA. Demographically, having a spouse and/or dependent children during the transition ($\beta = 0.15$, $t(240) = 2.02$, $p = .045$) and attending a private institution ($\beta = 0.24$, $t(240) = 2.85$, $p = .005$) were statistically significant in predicting cumulative GPA. Financially, experience determining military educational benefit eligibility ($\beta = -.10$, $t(240) = -2.30$, $p = .023$) significantly predicted cumulative GPA. Academically, experience meeting professor's academic expectations ($\beta = -0.18$, $t(240) = -2.69$, $p = .008$) and feeling academically prepared to enter the institution ($\beta = 0.17$, $t(240) = 3.05$, $p = .003$) significantly contributed to the prediction of GPA in the model, all other factors held constant. A summary of all regression findings is included in Table 5.

Research Question 3: Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predicted cumulative GPA for military and veteran students?

The independent variables for this research question were demographic variables (SEX, RACE, FGEN, DEPLOY, INJURY, FAMILY, SEMCOMP, TYPE, and PRIVATE when applicable), financial variables (FUNDERSTOOD, FHASSLEF, FCOVER,

FEXPECT, FDETERMINE), academic variables (AIPREP, AIOVERW, AIEXPECT, ACUNDERSTOOD, ACSATISFIED, ACOBTAIN), personal variables (PVALUE, PFELT, PPREP), and relationship variables (RMILSTU, RVSTAFF, RFAC, RADV). The dependent variable was intent to return (RETURN).

Since the dependent variable was intent to return, 104 responses where the participant reported that they were not returning but were planning to graduate were not included. Items PWELCOME and PCARED were removed prior to analysis because of high inter-item correlation ($r = 0.78$). After these adjustments, 455 cases remained in the dataset for analysis. For Research Question 3a, only community college students were included in analysis ($n = 205$) and in Research Question 3b, only four-year institution students were included in the analysis ($n = 250$).

Logistic regression was conducted to determine the level to which the independent variables could predict intent to return following multiple imputation of missing data. A summary of missing data is included in Appendix B. The results of regression analyses for this research question are presented in terms of the main question including all participants. Results reported in Research Question 3a include those participants attending a community college and results reported for Research Question 3b include those participants attending a four-year institution. Fit statistics for the model applied to all three populations is included in Table 6.

Because goodness of fit tests are not logical following multiple imputation, the model was repeated using mean-imputation. Results were very similar to those acquired using multiple imputation, with only feeling academically prepared to enter the institution

Table 6. Model summaries for predicting intent to return after mean imputation

	Participants		
	All	Community College	Four-year Institution
Pseudo R ²	0.11	0.25	0.22
Hosmer-Lemeshow χ^2	5.69	5.92	3.90
<i>p</i> -value	0.682	0.656	0.866
Percent correctly classified	92.75	90.24	94.80

significantly contributing to the prediction of intent to return ($\beta = -1.06, p < 0.05$). To confirm goodness of fit for the model using mean-imputed data, a Hosmer and Lemeshow goodness-of-fit test was performed. The test resulted in a Hosmer-Lemeshow χ^2 of 5.69 with a high *p*-value ($p = 0.682$) indicating that the model may be a good fit for the data. A classification table revealed that 92.75% of those who were predicted to intend to return, did intend to return. A comparison of fit statistics for all populations is included in table 6 and a summary of all regression findings is included in Table 8.

Regression coefficients indicated that one variable, feeling academically prepared to enter the institution ($\beta = -1.01, p < 0.05$), significantly contributed to the prediction of intent to return in the model, all other factors held constant. There was a negative relationship between intent to return and feeling academically prepared to enter the institution. A summary of all regression findings after multiple imputation is included in Table 7.

Research Question 3a: Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predicted cumulative GPA for military and veteran students attending community colleges?

Because goodness of fit tests are not logical following multiple imputation, the model was repeated using mean-imputation. Results were very similar to those acquired using multiple imputation, with only feeling academically prepared to enter the institution significantly contributing to the prediction of intent to return ($\beta = -2.22, p < 0.01$). A

Table 7. Logistic coefficients for study factors and cumulative GPA for students at all institutions, community colleges, and four-year institutions after multiple imputation of missing data

Variable	All Participants (N=455)			Community College (n=205)			Four-year Institutions (n=250)		
	β	Odds Ratio	Std. Err.	β	Odds Ratio	Std. Err.	β	Odds Ratio	Std. Err.
SEX	0.32	1.38	0.53	0.38	1.46	0.07	0.34	1.40	0.98
RACE	0.95	2.60	0.77	0.82	2.26	0.08	1.17	3.21	1.38
FGEN	-0.40	0.67	0.41	-1.31	0.27	0.05	0.53	1.69	0.75
DEPLOY	0.17	1.18	0.42	0.35	1.42	0.02	-0.48	0.62	0.81
INJURY	0.04	1.04	0.44	-0.91	0.40	0.05	1.05	2.86	0.90
FAMILY	-0.29	0.75	0.42	-0.37	0.69	0.05	-0.08	0.93	0.68
SEMCOMP	-0.02	0.98	0.07	-0.15	0.89	0.10	0.12	1.13	0.14
TYPE	-0.63	0.53	0.42	-	-	-	-	-	-
PRIVATE	-	-	-	-	-	-	0.71	2.03	1.19
FUNDERSTOOD	0.36	1.43	0.03	0.67	1.95	0.04	0.42	1.53	0.53
FHASSLEF	-0.26	0.77	0.33	-0.25	0.78	0.00	-0.36	0.10	0.55
FCOVER	0.12	1.13	0.26	-0.03	0.97	0.04	-0.05	0.95	0.44
FEXPECT	0.14	1.01	0.33	-0.36	0.70	0.04	0.29	1.33	0.53
FDETERMINE	-0.13	0.88	0.30	0.08	1.08	0.04	-0.25	0.78	0.48
AIPREP	-1.01*	0.37*	0.39	-2.21**	0.11**	0.04	-0.18	0.83	0.54
AIOVERW^	0.24	1.27	0.30	0.13	1.14	0.04	0.75	2.12	0.53
AIEXPECT^	-0.38	0.69	0.40	-0.36	0.70	0.05	-0.94	0.39	0.77
ACUNDERSTOOD	-0.21	0.81	0.57	-0.80	0.45	0.07	0.13	1.14	0.88
ACOBTAI^	0.10	1.10	0.45	-0.09	0.91	0.05	0.49	1.63	0.72
PVALUE	-1.01	0.99	0.31	-0.20	0.82	0.04	-0.12	0.88	0.53
PFELT	-0.18	0.84	0.36	-0.36	0.70	0.04	-0.16	0.85	0.70
PPREP	0.57	1.77	0.36	0.65	1.91	0.04	1.16	3.18	0.77
RMILSTU	-0.00	0.99	0.47	0.43	1.54	0.06	0.07	1.07	0.83
RVSTAFF	0.01	1.01	0.44	0.31	1.36	0.06	-0.13	0.88	0.77
RFAC	0.30	1.35	0.53	-0.54	0.58	0.07	1.04	2.83	0.78
RADV	0.41	1.51	0.45	0.99	2.69	0.06	0.45	1.58	0.91

Note. ^ indicates reverse-coded item, * $p < 0.05$, ** $p < 0.01$

summary of all regression findings after mean imputation are included in table 8. To confirm goodness of fit for the model using mean-imputed data a Hosmer and Lemeshow goodness-of-fit test was performed. The test resulted in a Hosmer-Lemeshow X^2 of 5.92 with a high p -value ($p = 0.66$) indicating that the model may be a good fit for the data; a classification table revealed that 90.24% of those who were predicted to intend to return, did intend to return. A comparison of fit statistics for all populations is included in table 6 and a summary of all regression findings is included in Table 8.

Table 8. Logistic coefficients for study factors and cumulative GPA for students at all Institutions, community colleges, and participants from four-year institutions after mean imputation of missing data

Variable	All Participants ($n=455$)			Community College ($n=205$)			Four-Year Institutions ($n=250$)		
	β	Odds Ratio	Std. Err.	β	Odds Ratio	Std. Err.	β	Odds Ratio	Std. Err.
SEX	0.31	1.36	0.51	0.26	1.30	0.99	0.17	1.19	1.14
RACE	1.00	2.70	0.75	1.12	3.05	3.43	1.37	3.88	5.14
FGEN	-0.35	0.70	0.39	-1.21	0.30	0.19	0.45	1.56	1.11
DEPLOY	0.14	1.51	0.41	0.39	1.48	0.88	-0.65	0.52	0.42
INJURY	0.08	1.08	0.44	-1.06	0.35	0.24	1.26	3.51	3.20
FAMILY	-0.34	0.71	0.41	-0.43	0.65	0.40	-0.15	0.86	0.60
SEMCOMP	-	-	-	-0.13	0.88	0.08	0.18	1.20	0.17
TYPE	-0.70	0.50	0.41	-	-	-	-	-	-
PRIVATE	-	-	-	-	-	-	0.52	1.68	1.95
FUNDERSTOOD	0.41	1.51	0.30	0.54	1.71	0.78	0.59	1.81	0.94
FHASSLEF	-0.27	0.77	0.30	-0.15	0.86	0.42	-0.46	0.63	0.33
FCOVER	0.14	1.15	0.25	-0.09	0.92	0.36	-0.16	0.86	0.35
FEXPECT	-0.09	0.92	0.30	-0.61	0.55	0.26	0.28	1.32	0.63
FDETERMINE	-0.11	0.90	0.29	0.14	1.15	0.59	-0.35	0.70	0.33
AIPREP	-1.06**	0.35**	0.37	-2.22**	0.11**	0.07	-0.50	0.60	0.31
AIOVERW^	0.24	1.27	0.28	0.16	1.17	0.50	0.84	2.32	1.18
AIEXPECT^	-0.33	0.72	0.38	-0.29	0.75	0.40	-1.23	0.29	0.22
ACUNDERSTOOD	-0.11	0.90	0.50	-0.64	0.53	0.39	0.30	1.35	1.21
ACOBTAI^	0.27	1.31	0.38	0.13	1.13	0.69	1.14	3.13	2.53
PVALUE	-0.04	0.96	0.28	0.06	1.06	0.49	-0.07	0.94	0.46
PFELT	-0.27	0.76	0.35	-0.49	0.62	0.32	-0.20	0.82	0.64
PPREP	0.66	1.93	0.34	0.74	2.09	1.11	1.33*	3.80*	2.38
RMILSTU	0.02	1.02	0.46	0.47	1.61	1.14	-0.16	0.85	0.69
RVSTAFF	0.04	1.04	0.42	0.60	1.82	1.27	-0.16	0.85	0.64
RFAC	0.25	1.29	0.52	-1.13	0.32	0.39	1.18	3.26	0.69
RADV	0.51	1.67	0.44	0.62	1.86	1.26	0.25	1.29	1.11

Note. ^ indicates reverse-coded item, * $p < 0.05$, ** $p < 0.01$.

Regression coefficients indicated that one variable, feeling academically prepared to enter the institution ($\beta = -2.21$, $p < 0.01$), significantly contributed to the prediction of intent to return in the model, all other factors held constant. There was a negative relationship between intent to return and feeling academically prepared to enter the institution.

Research Question 3b: Did demographic characteristics, financial, academic and personal experiences, and campus relationships during transition predicted cumulative GPA for military and veteran students attending four-year institutions?

Because goodness of fit tests are not logical following multiple imputation, the model was repeated using mean-imputation. Results were very similar to those acquired using multiple imputation, however, feeling the institution was prepared to assist military and

veteran students significantly contributed to the prediction of intent to return in the model utilizing mean imputation ($\beta = 1.334, p < 0.05$). To confirm goodness of fit for the model using mean-imputed data a Hosmer and Lemeshow goodness-of-fit test was performed. The test resulted in a Hosmer and Lemeshow χ^2 of 3.90 with a high p-value ($p=0.866$) indicating the model may be a good fit for the data; a classification table revealed that 94.80% of those who were predicted to intend to return, did intend to return. A comparison of fit statistics for all populations is included in table 6 and a summary of all regression findings is included in Table 8.

Regression coefficients indicated that no variables significantly contributed to the prediction of intent to return in the model, all other factors held constant. A summary of all regression findings is included in Table 7.

Summary

This quantitative study of military and veteran student transition experiences sought to explore the relationships among independent variables (demographic characteristics, financial, personal and relationship experiences) and dependent variables (GPA and intent to return). Correlation findings along with the results of OLS multiple and logistic regression analyses were reported.

The findings revealed low levels of direct correlation between study factors and cumulative GPA, but significant factors were similar across institution type. Results from the OLS multiple regression revealed that only one variable, experience meeting professor's academic expectations, was significant in predicting cumulative GPA across the entire population and in both institution-type subgroups. The models for four-year institutions and

community colleges were slightly more successful than the model for all participants, accounting for 23.9% and 23.6% of variance in cumulative GPA respectively. The model was largely successful in predicting intent to return, slightly more so for the population of students at four-year institutions, although only one variable was significant with missing data were multiply imputed and two when missing data were substituted with the mean score. The implications for these findings are discussed in the following chapter.

CHAPTER 5. DISCUSSION

The purpose of this study was to present findings that may enable two- and four-year institutions to serve military and veteran students by identifying the demographic characteristics, financial, academic and personal experiences and campus relationships during military and veteran students' transitions to a college or university that predict grade point average (GPA) and intent to return. This research sought to determine factors that influenced the academic success and persistence of military and veteran students during their transition. To address this finding, the specific research questions guiding the study were:

1. What relationships existed between demographic characteristics, institution type, financial, academic and personal experiences and campus relationships and GPA for military and veteran students?
2. Did demographic characteristics, financial, academic and personal experiences and campus relationships during transition predict cumulative GPA for military and veteran students?
3. Did demographic characteristics, financial, academic and personal experiences and campus relationships predict intent to return to the institution for the following semester for military and veteran students?

In addition to answering these questions for all participants, each question was applied to participants from four year institutions and community colleges separately. Survey data about the college transition experience were collected from military and veteran students at thirteen institutions across one Midwestern state. Chapter 5 includes a summary of the

findings that were shared in Chapter 4, implications, recommendations for practice, limitations of the current study, and recommendations for future research.

Summary of the Findings

A summary of findings presented in Chapter 4 is divided into results for community college participants, four-year institution participants and then for all participants.

Livingston et al. (2011) guided the content of this study, providing a framework for input and environmental variables to include. Astin's (1993) Input-Environment-Outputs (I-E-O) model framed the structure of this study. The I-E-O model takes into account the role of said input and environmental variables in shaping outcomes. The findings are discussed in terms of these two output factors: cumulative GPA and intent to return. Following the summary, a discussion of consistently insignificant variables is included.

Community college participants

Cumulative GPA

Four variables significantly correlated with cumulative GPA for community college participants. Experience meeting professor's academic expectations and feeling academically overwhelmed negatively correlated with cumulative GPA. Having a spouse and/or dependent children and feeling academically prepared to enter the institution positively correlated with cumulative GPA. No financial, personal or relationship variables were significantly correlated with cumulative GPA.

The model examined in this study predicted 24% of variance in cumulative GPA for community college participants. Four variables significantly predicted cumulative GPA for

participants at community colleges: identifying as non-White, sufficiency of military educational benefits to cover needs, experience meeting professor's academic expectations and experience obtaining credit for military service. No relationship or personal factors were significant in predicting cumulative GPA for community college participants.

Intent to return

The model correctly predicted 90.24% of cases of participant's intent to return. Despite this high classification percent, only one variable was significant in predicting intent to return for community college participants: feeling academically prepared to enter the institution. This finding reveals that intent to return may be difficult to predict for community college participants utilizing the variables considered in this study. No financial, relationship, personal or demographic factors were significant predictors of intent to return for community college participants.

Four-year institution participants

Cumulative GPA

Seven variables significantly correlated with cumulative GPA for participants attending a four-year institution. Experience meeting professor's academic expectations and feeling academically overwhelmed negatively correlated with cumulative GPA. Having a spouse and/or dependent children, attending a private institution, feeling academically prepared to enter the institution, perceiving that their professors valued their military experience and level of satisfaction with how military credits were applied to their

degree correlated positively with cumulative GPA. No relationship or financial factors significantly correlated with cumulative GPA for students attending a four-year institution.

The model examined in this study predicted 24% of variance in cumulative GPA for four-year institution participants. Five variables were significant predictors of cumulative GPA for participants attending four-year institutions: having a spouse and/or dependent children during the transition, attending a private institution, experience determining military educational benefit eligibility, experience meeting professor's academic expectations and feeling academically prepared to enter the institution. No relationship or personal variables were significant in predicting cumulative GPA for four-year institution participants.

Intent to return

The model correctly predicted 94.8% of cases of participants' intent to return. Despite this high percent of cases correctly classified, no variables were significant in predicting intent to return for four-year institution participants. Because the vast majority of four-year institution participants intended to return to the institution, this finding is not surprising. The results also indicate that the variables used in this study are not useful in predicting those who do not intend to return. No academic, financial, relationship, personal or demographic factors were significant predictors of intent to return for four-year institution participants.

All participants

Cumulative GPA

Six variables significantly correlated with cumulative GPA for all participants. Identifying as non-White, experience meeting professor's academic expectations and feeling academically overwhelmed correlated negatively with cumulative GPA. Having a spouse and/or dependent children, feeling academically prepared to enter the institution and perceiving that professors valued their military experience positively correlated with cumulative GPA. No financial or relationship factors significantly correlated with cumulative GPA.

The model examined in this study predicted 20% of variance in cumulative GPA for all participants. Six variables significantly predicted cumulative GPA for all participants: identifying as non-White, having a spouse and/or dependent children during the transition, experience determining military educational benefit eligibility, experience obtaining credit for military service, feeling academically prepared to enter the institution and experience meeting professor's academic expectations. No relationship or personal factors significantly predicted cumulative GPA for all participants.

Intent to return

The model correctly predicted 90.75% of cases of participant's intent to return. Despite this high percent of cases correctly classified, only one variable was significant in predicting intent to return for community college participants: feeling academically prepared to enter the institution. This finding reveals that intent to return may be more difficult to predict with the included variables with the vast majority of participants intending to return

to the institution. No financial, relationship, personal or demographic factors were significant predictors of intent to return for all participants.

Insignificant variables

Demographic variables were consistently insignificant throughout this study. With the exception of identifying as non-White and having a family during the transition, demographic variables had no discernable relationship to cumulative GPA and intent to return. Identifying as non-White correlated with cumulative GPA for all participants and predicted cumulative GPA for community college participants and having a family during the transition correlated with cumulative GPA for two- and four-year institution participants and predicted cumulative GPA for four-year institution participants. All other variables including sex, first-generation status, disability or injury, deployment experience or number of semesters completed were insignificant.

Relationship variables were consistently insignificant in correlating with cumulative GPA or predicting cumulative GPA and intent to return. This finding was consistent across institution types.

Personal factors were insignificant in correlating with or predicting cumulative GPA and in predicting intent to return for community college participants. The only personal factor that correlated with cumulative GPA was four-year institution participants' assessment in that they felt their professors valued their military experience; this variable was, however, not a significant predictor of cumulative GPA. This finding was mirrored when all participants were examined. Other personal factors including feeling like an important part of the institution community, feeling the institution was a welcoming environment for

military and veteran students, that the institution was well-prepared to assist military and veteran students and that the institution cared about military and veteran students were insignificant.

There existed consistencies and inconsistencies among students of different institutional types. The following section includes a discussion of the implications of these findings.

Similarities and Differences with Existing Theories and Research

The findings offer two areas in which to explore similarities and differences between this study and existing research: (a) existing theories of student persistence may not be fully applicable to this population of students; and (b) many academic, financial, personal and relationship experiences extoled as important in existing literature around military and veteran students did not influence or relate to student persistence or academic success.

Existing theories of student persistence

Research and theories on student leaving have undergone many changes over the last 40 years but one principle has remained consistent: involvement and engagement are significant factors in student persistence. The findings from this study are contrary to this assertion for military and veteran students. DiRamio and Jarvis (2011) hypothesized that Tinto's (1993) model of attrition was a strong model to apply to the student veteran population, particularly because of the focus on the importance of the interactions between student veterans and faculty as well as other students in enhancing the likelihood of persistence. Existing studies on military and veteran student transitions highlight the importance of relationships with fellow veteran students (e.g., DiRamio et al., 2008;

DiRamio & Jarvis, 2011; Rumann & Hamrick, 2009; Whiteman et al. 2013). With this, one would expect that relationship factors or academic integration factors would significantly predict intent to return in this study; however, none of these factors influenced intent to return for participants.

Multiple explanations could be offered in response to these findings. One explanation may be whether the institutional context allowed for the interaction between military and veteran students and with faculty and the depth of relationships (engaging relationships versus surface-level interaction). Survey responses indicated that opportunities were available for interaction. Among all the participants, 87% attended an institution with a military and veteran student club, 63% attended institutions with a Veterans Center, and 60% attended an institution with a veteran or military student orientation session. This finding indicated some students enjoyed a structured context through which to develop relationships with fellow military and veteran students, and others attended an institution with these resources. Students without a campus club, center or orientation session, nevertheless, still reported relationships with fellow military and veteran students. Likewise, 75% of all participants reported having relationships with faculty members. Participants were asked not only to report whether or not they had relationships but also to assess whether that included strong, weak or non-existent relationships. In terms of relationship strength, participants on average evaluated their relationships and approximately half reported strong relationships with faculty and with fellow military and veteran students.

That relationships were not predictive of intent to return suggests that military and veteran students may not fit existing models of student retention with an emphasis on engagement through relationships. Reason and Gansemer-Topf (2013) shared that, rather

than relying on previously proven knowledge, researchers must re-visit and re-examine understanding of students. They further asserted that, even though the study of student leaving has matured as an area of study, higher education scholars cannot expect that existing models will always fit emerging populations, especially given changing student demographics. Findings from this study indicate that peer engagement does not yield the outcomes one would expect from extant research on student persistence and on military and veteran students. This suggests that transitional support for military and veteran students should be designed and implemented with a consideration of how peer-to-peer interactions may occur between military and veteran students and the institution.

Factors included in this study were selected because of their illumination as critical aspects of the transition for military and veteran students as well as their relationship to persistence and retention across student transition literature and the Livingston et al. (2011) model. This theoretical framework provided a useful network of variables through which to view military and veteran student success within Astin's (1993) I-E-O conceptual framework. Ultimately, however, the variables informed by the theoretical framework did not translate to predicting relationships to intent to return. All but one of these factors were insignificant in predicting intent to return across all participants and participants at community colleges, whereas none were significant for participants attending four-year institutions. Feeling academically prepared to enter the institution was the only significant predictor of intent to return for all participants and for participants at community colleges, indicating that perception of one's academic ability is a predictor of intent to persist for community college students and also that overconfidence may be a detriment to success. The consideration of non-cognitive characteristics is discussed in this chapter.

Existing research on military and veteran student transition

The results of this study are contrary to previous findings on military and veteran student transitions. The majority of academic, financial, personal and relationship experiences explored in this study do not predict or significantly correlate with student intent to return or academic success, contrary to the plethora of qualitative studies extoling the importance of these factors (e.g., Bauman, 2009 & 2013; DiRamio et al., 2008; Griffen & Gilbert, 2015; Livingston et al., 2011; Rumann & Hamrick, 2010; Schiavone & Gentry, 2014; Williams, 2013).

Several possible reasons may explain these differences in the findings: (a) a quantitative approach versus qualitative approach; (b) an examination of specific outcomes; and (c) a view across multiple institutions and institution types. The qualitative studies that have examined military and veteran transition up to this point have focused on describing the transition, identifying barriers to success and illuminating the experiences of military and veteran students entering or re-entering academic institutions. The quantitative focus of this study identified two measurable, although self-reported, outcomes: cumulative GPA and intent to return which sought to identify only those experiential factors that influence those two outcomes, an approach that has not yet been utilized. Additionally, a quantitative study allowed for a larger number of participants from multiple institutions representing a wide variety of identities but also a wide variety of perspectives and experiences. While the existing qualitative studies of military and veteran student transition include thick, rich descriptions of the experiences of a small number of students, this study integrated perspectives from those studies to assess whether the findings are applicable across a large,

diverse pool of participants in terms of sex, ethnicity, deployment experience, major, and institution-type.

Ideally, quantitative and qualitative data would point to the same phenomenon or cause and mutually support each other. This study required integrating existing qualitative findings about military and veteran students with incongruous quantitative data. Wagner et al. (2012) cautioned that conflicting results from quantitative and qualitative analyses do not necessitate the invalidation of all findings. Wagner et al. also highlighted how the reciprocal, rather than linear, relationship between the quantitative and qualitative data emerged, and this ultimately provided researchers with a more nuanced understanding of the phenomenon than a single method could have illuminated.

Although the findings from this study do not fully support the findings from previous studies, neither do they completely refute them. Rather, findings from this study augment and offer further contextualization for previous findings. A quantitative study, by nature, seeks to measure and quantify relationships while qualitative studies seek to understand relationships and phenomenon (Creswell, 2014). Through regression analysis many factors are considered simultaneously and only those that are most significant emerge. Researchers have continually found relationships, community and peer support, academic credit concerns, and frustrations with accessing and receiving military educational benefits to be barriers to military and veteran student transition. However, these same factors largely failed to predict intent to return or academic success in this study indicate that this population of students is highly resilient to challenges and that individuals may possess a high level of grit (Duckworth et al. 2007), a concept explored in this chapter. Existing studies further

revealed that bureaucratic processes such as military educational benefits and academic credit transfer are significant in addition to the role of relationships.

Bureaucratic processes

Military and veteran students may possess resilience to or tolerance for bureaucracy, however, this does not ameliorate the impact of the barriers described previously.

Academic credit concerns and frustrations with accessing and receiving military educational benefits may not predict intent to return or cumulative GPA but literature includes many examples of these factors shaping the transition experience (Boerner, 2013; DiRamio et al., 2008; Rumann & Hamrick, 2010; Williams, 2013). The often bureaucratic processes of acquiring credit for military service or credits earned while in the military and the process of accessing military educational benefits are often early tasks for students as they enroll.

Efficiencies in these procedures would allow students to focus on their academic success and preparation sooner, which does play a role in predicting intent to return and cumulative GPA. The expectation that credits will transfer can develop from multiple sources, such as through recruiters, word of mouth from fellow military personnel, and assumptions about the universal validity of coursework completed in the military. A failure to determine and address any of these concerns may lead to students being continually frustrated with a system and feeling less prepared to be academically successful.

Relationships

The importance of relationships and community support was outlined by Livingston, et al. (2011) and several others. Relationships in the literature were broadly discussed in two categories: relationships with peers and relationships with institutional agents (in this

study, faculty, academic advisers, and military and veteran support staff). Existing studies (Griffen & Gilbert, 2015; Livingston et al., 2011; Williams, 2013) offered that relationships with fellow military and veteran students allow for the construction of a community where students can find support. This same research encourages institutions to intentionally create opportunities for these relationships to form. These relationships, when formed early, can enable students to develop academic strategies early to enhance academic self-efficacy. The strength and importance of peer relationships in qualitative studies indicates that peers may be a strong vehicle for providing academic support information. This information allows new military and veteran students to feel prepared to enter the institution, ready to meet professor's expectations and not to become academically overwhelmed—all factors that predict cumulative GPA across all participants and intent to return to community college institutions.

Relationships with staff and faculty were not significant predictors of intent to return or cumulative GPA in this study. This finding is contrary to multiple studies that have highlighted the important role that relationships with institutional agents plays in the transition experiences of military and veteran students. For example, Griffen and Gilbert (2015) found that staff members working with military and veteran offices or programs were appreciated by students as a central location to get information and guidance. Williams (2013) found that these staff members were often students' first or early connection to the institution and an important person in their academic journey. Griffen and Gilbert also shared that these individuals are often advocates on campus for military and veteran concerns or issues, and responsible for creating the spaces for community and peer relationships to flourish where academic self-efficacy can be fostered.

Thus, how should the findings from this study be interpreted? Findings from previous studies informed how institutional agents assist students to navigate the institution, address classroom or financial concerns, and serve as a resource. The findings from this study do not disprove those findings but add that the actions of the agents that influence other variables that do contribute to academic success and intent to return. For example, Williams (2013) found students were appreciative of the staff who help them navigate acquiring military educational benefits, advisers who work with them closely to advocate for the application of military credit, and faculty who make expectations clear and respect students. To this end, it was not the relationship, itself, but the role of the relationship in neutralizing other barriers that contribute to cumulative GPA. Feeling academically prepared to enter the institution was the only variable significant in predicting intent to return and this could be due, in part, to the work of institutional agents such as faculty and staff assisting military and veteran students contextualize how their experiences can help them in the classroom. This assertion, however, has not yet been explored in research on military and veteran student transitions. This finding indicates that administrators should continue to allocate resources to staff to assist students and in training campus faculty and staff to be resources for military and veteran students.

Role of injury or disability

Lombardi, Murray, and Gerdes (2012) asserted that college students with disabilities are retained at lower rates, and have poorer academic performance compared to peers without disabilities. Boyraz, Horne, Owens, and Armstrong (2013) found that students with trauma experience or who suffered from PTSD are at increased risk of academic difficulties. In this

study, service-related injury or disability was insignificant in predicting cumulative GPA or intent to return. This finding was important despite the variable's lack of significance.

The vast majority of research on military and veteran students is centered on injury, disability and, especially, PTSD and other mental health concerns. While living with a service-related injury or disability is the experience of some students—an estimated 20-30% according to Kraus and Rattray (2013)—the extensive number of researchers exploring this area could lead practitioners and scholars to focus on disability as a roadblock to success for military and veteran students. This research does warrant this focus and suggests that institutions, while not ignoring service-related injuries and disabilities, need to take a broader approach in serving this population of students. Osborne (2014) summarized that a lack of understanding of military culture coupled with a media focus on PTSD, traumatic brain injury, and violent behavior of some veteran makes military and veteran students susceptible to inaccurate stereotypes about their ability to integrate into a campus community and succeed academically. These inaccurate stereotypes, when held by campus staff, faculty and administrators, could yield resources being channeled solely toward mental health care and not toward other needed areas.

Summary

The findings indicate that barriers, concerns and issues highlighted in current military and veteran student literature remain significant components of the student experience but not necessarily as predictors of intent to return or cumulative GPA. These findings also indicate that traditionally utilized models and existing theories of student persistence do not necessarily fit military and veteran students, and institutions should further examine why and

how models for these students differ from traditional models predicting persistence, including how non-cognitive characteristics influence intent to return.

Higher education scholars and practitioners are challenged to consider the unique experiences of military and veteran students in researching persistence and intent to persist within this group, especially as that scholarship relates to informing practice. While military and veteran students cut across all social identities, the added layer of military service may be a crucial component that shapes how scholars approach the study of this group and their members' intent to persist and practitioners approach supporting these students. Recently, increased attention has been paid to military and veteran students in terms of higher education practice—conferences, knowledge community and webinars are examples of ways higher education professionals have begun to engage in critical conversations about serving military and veteran students. This study offers opportunities to expand and deepen those conversations.

Emerging Findings

Although findings from this study support and challenge existing knowledge on military and veteran students and theories of persistence as they relate to this population as described previously, two findings not yet explored within military and veteran student literature emerged from the study as well: (a) different factors influence intent to return and cumulative GPA at community colleges and four-year institutions for military and veteran students; and (b) non-cognitive characteristics could play a significant role in the academic success and persistence of military and veteran students at community colleges and four-year institutions.

Institution type and academic outcomes

The purpose of this study was to explore the role of demographic, academic, financial, personal and relationship factors in the academic success and intent to persist for military and veteran students with and without accounting for institution type. The findings of this study indicate that different factors influence cumulative GPA and intent to return for community college military and veteran students and four-year institution military and veteran students. The following outlines key similarities and differences in findings by institution type, first for cumulative GPA and then for intent to return.

Cumulative GPA

Cumulative GPA was predicted by largely different factors for community college and four-year institution students indicating that different factors may influence the success of each population. There were some commonalities across institution type in terms of insignificant predictors; relationship and personal factors were not predictors of cumulative GPA at either institution type nor were demographic factors of sex, deployment experience, first-generation student status or number of semesters completed. The lack of impact of these demographic factors in this study may speak to the role of latent variables such as grit (Duckworth, Peterson, Matthews, & Kelly, 2007) or other non-cognitive characteristics in determining academic success as measured by cumulative GPA. Findings related to non-cognitive characteristics are discussed later in this chapter.

Experience meeting professor's expectations was one common factor that predicted cumulative GPA, regardless of institution type and the role of this factor, is discussed in the following section. Eraut (2000) introduced that understanding course material alone is not

enough for students to be academically successful; they must also have a tacit understanding of faculty expectations. Collier and Morgan (2008) further asserted that students may experience difficulty when the implicit but not verbalized expectation of instructors is that students demonstrate critical thinking in addition to a grammatically correct, logically consistent argument. O'Herrin (2011) raised this same concern in a discussion about how faculty can best serve military and veteran students in the classroom. How different demographic, academic and financial variables predicted cumulative GPA at community colleges and four-year institution is discussed in the following subsections.

Demographic factors. Demographically, race and ethnicity significantly predicted cumulative GPA at community colleges; however, at four-year institutions, this was not the case. African American, Native American, Asian American, Pacific Islander or Native Hawaiian, Latino or Multiracial participants comprised approximately the same proportion of the population at each institution type. As a whole, community colleges tend to be more racially diverse than four-year institutions (Jones, 2013b), and community colleges are the predominant entry point for students of color into higher education (Perrakis, 2008).

Community college administrators should note the finding that identifying as non-White significantly predicted cumulative GPA in a negative direction. Hagedorn (2003) concluded that diversity in academic preparation supersedes demographic diversity related to race or class at community colleges; however, this finding is complicated by the fact that a significant gap exists in academic preparation between racial and socioeconomic groups (Roderick, Nagaoka, & Coca, 2009).

The findings from this study indicate that, for military and veteran students, identifying as non-White was a significant factor in predicting GPA, even when considering perceived academic preparation. When incorporating training, orientation or assistance programming, additional care should be given to collaborating with multicultural student services offices where they exist in exploring this difference, and then addressing the unique needs of military and veteran students of color at community colleges.

At four-year institutions, racial differences tend to emerge in GPA and they surface early (Spenner, Buchmann, & Landerman, 2005). That race and ethnicity was not significant for military and veteran students may be indicative of extra skills or human capital these students bring to the institution from their military or life experiences between high school and college. Future research should examine this population more closely, integrating a more thorough consideration of racial identity (i.e., is this finding consistent for African American military and veteran students, Asian American military and veteran students, etc.).

Having a spouse/partner or dependent children during the college transition was a positive predictor of cumulative GPA for four-year institution participants. Engagement with faculty and military and veteran peers did not predict academic success as existing research might posit, but the role of family engagement may be an alternative factor in predicting military and veteran student success.

Torres and Solberg (2001) offered that family support provides important sources of confidence and found that family support directly affected academic self-efficacy. Torres and Solberg focused on Latino students, in part, because of the assumption of the centrality of the role of family in collectivist cultures. Few participants in this current study identified

as Latino; however, the culture of the military is described as somewhat collectivist as well in that the needs of the unit outweigh the needs of the soldier (Adam, 2009).

Four-year institution leaders should consider how to capitalize on this success by beginning or continuing to offer support to military and veteran students with families attending four-year institutions. This strategy could include inviting families to participate in student programs, offering a family component to support services or simply working with military and veteran students to balance their school work with their family responsibilities (Rumann, 2010). Torres and Solberg (2001) recommended institutions provide resources to families on how to best support their loved one(s) as they transition to a higher education institution.

Attending a private institution was a significant predictor of cumulative GPA. Only four-year institution participants attended private institutions, but this finding may be a gateway to exploring what private institutions are providing for students to help them be successful. There are many possible explanations for this finding. The private institutions in this study were smaller institutions than the public institutions with an average of 2,000 undergraduate students, with 15-25% of the population identified as adult students. This is compared to an average undergraduate enrollment of nearly 20,000 with 5-10% identified as adult students (National Center for Education Statistics, 2014). Smaller environments and a lower faculty to student ratio contribute to retention (Pascarella & Terenzini, 2005), may offer more opportunities for resource utilization and faculty or administrative support, and the private institutions in this study may also have more supports in place for serving a larger proportion of students who identify as adults. This finding warrants future research in to the

entering characteristics of military and veteran students attending public and private four-year institutions.

Despite different foci, community college and four-year institutions should pay attention to GPA outcomes for military and veteran students despite the relative academic success already present with this population (Williams, 2013). Higher cumulative GPAs set military and veteran students up for success when transferring from a community college to a four-year institution or for graduate and professional school following a four-year degree. Higher GPAs open doors for scholarship opportunities, the ability to partake in experiences such as an honors program or undergraduate research experiences, and can help in finding a professional position upon program completion. The National Association of Colleges and Employers (2014) reported that 67% of employers responding to their job outlook survey use GPA as a key factor in recruitment.

Academic factors. An academic integration factor (feeling academically prepared to enter the institution) predicted cumulative GPA for four-year institution participants, while an academic credit variable (experience obtaining credit for military service) predicted cumulative GPA for community college participants. For this factor, community college participants' GPA was determined by a process-oriented variable and for four-year institutions, by a self-efficacy variable. A process-oriented variable indicates a bureaucratic process over which the institution has some control. The experience obtaining credit for military service is often an early task for students as they enroll.

Frustration with this experience can be due to a number of causes, including a lack of communication about the process, and the lack of a process or military and veteran students

which contribute to the feeling the credit obtained is insufficient compared to their experiences. Regardless of the cause of the frustration, community colleges may improve the academic success of military and veteran students by assessing how military and veteran students experience the process for obtaining credit for military service or how the message that they will not obtain credit is communicated. Four-year institution administrators should consider recommendations related to promoting self-efficacy and preparation to enter the institution. The academic environment at four-year institutions and community colleges is different, and the academic experiences of military and veteran students are different as well.

Financial factors. While a process-related concern for academic factors predicted cumulative GPA for community college participants, a process-related financial variable predicted cumulative GPA for four-year institution participants. Alternately, a financial need variable predicted cumulative GPA for community college participants.

For four-year institution participants, the process by which they were able to determine which military educational benefits for which they were eligible was a significant predictor of cumulative GPA. In this study, the more “hassle-free” they found the process, the lower their cumulative GPA. This finding is counter-intuitive but two possible explanations exist: (a) a lack of engagement with the process for acquiring military educational benefits may lead not only to less frustration with it but also a lower likelihood of receiving all possible benefits, and (b) a tolerance for bureaucracy may be tied to the construct of grit.

The process for determining military educational benefit eligibility is highly complex and constantly evolving, and it is common for institution administrators and students to become frustrated (USGAO, 2013). It is possible that the students who experience no frustration are not fully engaged in the process which could translate to their engagement at the institution and in the classroom. If this is a result of lack of engagement in the process, it could result in students not receiving all benefits for which they might be eligible and, thus, receiving less financial support, exacerbating any financial constraints that may have otherwise affected their ability to fully engage with academic work.

Alternately, service in the military may prepare students for bureaucracy and be tied to characteristics such as grit (Duckworth et al., 2007) or commitment to persistence; they experience frustrations with the process for determining military educational benefits but it does not deter their academic success. Why this finding is true for four-year institution participants and not community college participants is unclear and warrants further study.

The sufficiency of military educational benefits to cover needs was a significant predictor of cumulative GPA for community college participants but not for four-year institution participants. Sufficiency of benefits to cover needs is a financial need concern versus strictly a process-oriented concern. As discussed in the review of literature, the Department of Defense stopped collecting socio-economic data from new military recruits in 1999 and no data is yet available about the financial need of military and veteran students (Wurster et al., 2010); so a direct relationship between socio-economic status and the sufficiency of military educational benefits to cover needs cannot be made. Community colleges are often a less expensive educational outlet compared to state and private four-year institutions (Rumann, 2010). Durdella and Kim (2012) found that veterans in their study

tended to come from lower-socioeconomic backgrounds. Additionally, military educational benefits often require a student be enrolled in a certain number of credits to receive full benefits—if students are enrolled in a community college program part-time or fully on-line, then their military educational benefits may be more limited than if they were attending full-time in terms of their housing allowance.

Four-year and community college administrators should consider how to address findings related to the financial transition. The findings from this study underlie the need for institutions to be diligent in addressing financial concerns including communication early communication about financial policies and procedures and the efficient processing of military educational benefits. Beyond institutional representatives, this information should be clearly articulated by military recruiters and those within the military and VA charged preparing military personnel and veterans with accessing college.

Intent to return

Braxton, et al. (2014) concluded that persistence and retention are different at four-year institutions than community colleges. In this study, only one variable was significant in predicting community college participant intent to return: feeling academically prepared to enter the institution. No variables predicted intent to return for four-year institution participants. This finding is still important in that it provides that the model is slightly more adept at predicting intent to return for community college students than students attending four-year institutions. This difference provides an opportunity for both institution types to explore other factors that influence intent to return; how and why institutions might do that is discussed in the following section about existing theories of student persistence.

Non-cognitive characteristics

The current literature on the academic success of military and veteran students focuses strongly on the need for peer relationships with fellow military and veteran students (DiRamio & Jarvis, 2011; Whiteman et al., 2013), the role of demographic considerations such as sex or disability/injury, and how faculty recognize or fail to recognize the needs of military and veteran students in their classrooms (O’Herrin, 2012). Findings from this study indicate that other, non-cognitive characteristics may contribute to academic success in ways that have yet to be explored in the research. Recently, non-cognitive factors have been tied to academic success (Melguizo, 2011). Two potentially valuable non-cognitive characteristics to explore in terms of military and veteran students are grit and self-efficacy.

Grit

Factors that existing theories of persistence would indicate as important in predicting intent to return were not significant predictors for military and veteran students. One explanation for this may be the unexplored characteristic of grit, a non-cognitive trait.

Duckworth et al. (2007) defined grit as perseverance and passion for reaching long term goals illustrated by working strenuously toward and through challenges, and described a “gritty” individual: “The gritty individual approaches achievement as a marathon his or her advantage is stamina. Whereas disappointment or boredom signals others that it is time to change trajectory and cut losses, the gritty individual stays the course” (p. 1,888). Grit may be inherent in individuals likely to join the armed forces or a trait developed through military socialization and training or a combination of the two. Since traditionally recognized factors such as relationships, academic integration and demographic factors did not predict

intent to return for this population, grit may be a factor in ameliorating their predictive power.

Duckworth et al. (2007) examined the role of grit in numerous educational settings, including a study of persistence at the United States Military Academy (USMA) and concluded that grit predicted retention to the program more than any other factor. Maddi et al. (2012) replicated this study with a larger sample that revealed similar results—grittier individuals were more likely to persist. With the exception of the two studies at the USMA, grit has not been empirically examined in the study of retention for college students but, in other domains (marriage, work, military commitment and high school graduation), grittier individuals were less likely to drop out of their respective commitments (Eskreis-Winkler, Shuman, Beal, & Duckwork, 2014). As discussed in recommendations for future research, the role of grit in predicting persistence among military and veteran students should be explored.

Self-efficacy

Feeling academically prepared to enter the institution was a predictor of academic success at four-year institutions and intent to return for participants attending community colleges and across all participants broadly. Experience meeting professor's academic expectations was a significant predictor of cumulative GPA at both four-year institutions and community colleges. These factors are all tangent to the concept of academic self-efficacy or the personal judgment of an individual's capacity to complete a course of action to reach a desired outcome (Bandura, 1997).

Zajacova, Lynch, and Espenshade (2005) surveyed existing literature on academic self-efficacy in college students and revealed consistent findings that self-efficacy is positively correlated with grades in college courses and persistence. Davenport and Lane (2006) found that self-efficacy is an effective predictor of college leaving, and Zajacova et al. concluded that academic self-efficacy is an important factor in ameliorating non-academic stressors, indicating gains in academic self-efficacy may yield to gains in other non-academic areas explored in this study.

Findings from the current study suggest that institutions should develop or maintain programs that provide academic preparation, opportunity to examine faculty expectations, and intentional conversations about how skills developed in the military can be harnessed in the classroom. Additionally, community colleges could see gains in intent to persist by discussing level of academic preparedness with military and veteran students upon entry to the institution, with particular emphasis on how their military training and experiences might inform their approach to their academic work. Rumann (2010) recommended that institutions, specifically community colleges, make proactive, community-wide efforts to outreach to military and veteran students.

The inclusion of faculty in programming around academic preparedness could meet both goals simultaneously. These programming efforts could include an orientation course or session designed to connect needed academic skills with military training and previous experiences as recommended by ACE (2011), intentional discussions between faculty or staff and new military and veteran students or collaborations with military and veteran student organizations to include these components in some of their activities. At community colleges, this same strategy could increase intent to return among students while at four-year

institutions, none of the factors, including those related to academic self-efficacy, predicted intent to return to the institution

This recommendation has been studied with other populations. Boylan and Saxton (2002) examined students participating in community college remediation programs and confirmed orientation as a component of a successful program to support students needing remedial support. Boylan and Saxon concluded that many students in remediation programs were first-generation college students who were unfamiliar with expectations and rewards in higher education, and thus often failed to meet or earn them. This same lack of academic capital may be mirrored with the military and veteran students in this study.

Chemers, Hu, and Garcia (2001) asserted that the moderation of a barrier as challenge or threat played an important role in determining academic expectations and Davenport and Lane (2006) offered that a strategy for enhancing self-efficacy is to assist individuals appraise stressful encounters and the resulting coping strategies that are used. Institutions could assist military and veteran students in reflecting on their ability to quickly assess challenge versus concern and how that might relate to their academic coursework.

Summary

Policy makers and state and federal government administrators are charged with making decisions regarding military and veteran military educational benefits and other matters related to the support of military personnel and veterans. These administrators should consider the different factors that influence success for students attending community colleges and four-year institutions when considering efforts to address academic success and persistence. This study did not address the role of transferring in the transition of military

and veteran students and future research should explore if or how transferring between institutions influences the transition experience to the new institution. This information could provide policy makers and government administrators with tools to inform their decision making and also how military personnel and veterans are advised in terms of pursuing higher education.

The introduction of non-cognitive factors as potential predictors of GPA and intent to return to research on military and veteran students invites the education community to engage in dialogue and research about the role of concepts such as academic self-efficacy and grit in developing new predictive models for this population. This is an area that should be considered for future research as well as practice.

Recommendations

Based on the findings of the study, several recommendations were made for practice in higher education, and administrators in community colleges and four-year institutions:

Higher education practice

There are multiple implications for higher education administrators and practitioners, key among them the need to focus on the academic preparation and self-efficacy for military and veteran students because of the predictive power of variable for cumulative GPA or intent to return, including feeling academically prepared to enter the institution and experience meeting professor's expectations. This goal could be accomplished in a variety of ways at the institutional level and could include pre-entry or early transition academic success sessions, online resources or a special session during orientation. At a broader level, higher education leaders should plan to work with military leaders and policy makers

to inform transition programs for veterans leaving the service and enrolling in higher education, including an introduction to military educational benefits and what to expect in college. This partnership could include ways to convey to veterans a preview of academic expectations, offer skills training if needed in writing or math, in addition to information about accessing military educational benefits and understanding military transfer credits.

In addition, practitioners and education and government administrators are challenged to consider where resources should be placed to capitalize on areas that predict intent to return and GPA while still supporting students on their journey. Much of this work will be informed by current and future scholarship that will continue to assess the experience of transition and increasingly examine the transition experiences' influence on GPA and intent to return, as well as other measurable outcomes such as retention, graduation, job placement, and alumni involvement. Scholars need to examine the interaction of factors found to be significant in this study and those found to be meaningful in existing studies of military and veteran student transition such as relationships and sense of belonging on campus.

Community college administrators

Rumann (2010) concluded that community colleges are appealing options for veteran students, especially those recently separated from service. Rumann also stated that community colleges are uniquely structured to serve this population, with an existing infrastructure geared toward non-traditional students.

As previously asserted, community college leaders should strive to design programs with academic self-efficacy and academic preparation in mind in consideration of student intent to return. This process should include developing program outcomes related toward

promoting and building on these skills using an institutional focus on serving military and veteran students throughout their transition to promote continued growth in these areas and use of these skills. While intent to return is a key component of persistence, academic success is paramount to moving toward program completion and/or transfer eligibility; this study provided insight into areas where community college leaders might focus their efforts.

Finally, bureaucratic processes, specifically academic credit concerns, should be addressed at community colleges. Frustrations obtaining credit for military service were significant predictors of cumulative GPA at community colleges. Previous literature indicated these frustrations were often a combination of lack of communication and a perceived lack of respect for military training and experience. Community college leaders should address this in multiple ways: (a) clearly outlining the process by which credit can be applied, if at all; and (b) beginning conversations with faculty, administrators, students and government officials about how to effectively translate military training and experience into academic credit.

Four-year institution administrators

This study explored both intent to return and the cumulative GPA as dependent variables. It is noteworthy that none of the factors were significant in predicting intent to return for students attending four-year institutions. This finding indicates that there is a wider variability in the decision to return, and other factors outside of this study may play a significant role.

The exploration of cumulative GPA, however, offers recommendations for four-year institution administrators in terms of where resources might be dedicated. Four-year

institutional leaders should take into account the positive role of family in predicting academic success and design programs and support opportunities that take into account the role of the family. Bureaucratically, experience determining eligibility for military educational benefits they should utilize was the only significant predictive factor of cumulative GPA for four-year institution students. These findings promote the need for four-year institutions to ensure that communication about the utilization of military educational benefits is as clear as possible as delivered early. Additionally, staff who work with students on financial issues (financial aid, bursar's office, military and veteran services officials, etc.) should be well-trained regarding the use of military educational benefits so they are prepared to help students make informed decisions. A challenge for institutions will be the ever changing landscape of military educational benefits for which training should be on-going as changes at the state and federal level affect processes for acquiring military educational benefits.

Limitations

The current study was not without limitations. The limitations are organized into two categories based on methodology and scope.

Methodology

The study was performed using a survey tool and, thus, subjected to limitations surrounding the use of surveys including the possibility for non-response error, that non-respondents experiences differ greatly from those who chose to participate, and the need for

participants to interpret questions through their own experiences versus the intent of the researcher (Dillman, Christian, & Smythe, 2009). The survey was distributed by administrators at participating campuses to military and veteran students; thus, without a random sample, the results may not be generalizable to the broader population of military and veteran students but it may be applicable only to the participating intuitions. Measures of intent to return and GPA were based on self-reported data and not institutional reports of retention and GPA, though the data in this study met NSSE criteria for a valid use of self-reported data as discussed in Chapter 3. Additionally, self-reported intent to return is an important measure for this population because this measure reflects the participants' intent. In some cases, a military student may be called to active duty and, therefore, is not retained. However, intent to return is not the same as the measure of persistence or retention, which limits the discussion to intended persistence versus actual persistence and eliminates discussion of possible intermediate variables that influence intent prior to action.

Scope

This research sought to determine the factors that predict intent to return and cumulative GPA for military and veteran students, limiting the scope of what was considered in the transition experience to the factors included. Although this decision was informed by current literature on military and veteran students and on academic success and retention across all students, it may have eliminated consideration of other factors that significantly contribute to the prediction of academic success and intent to return. Additionally, the theoretical foundation for this study, the model generated by Livingston et al. (2011), was generated based on the experiences of students re-enrolling after combat service. Even

though the content was consistent with other literature addressing military and veteran student transition, the study included participants outside of the population on which the theory was developed.

An attempt was made by this researcher to provide a more comprehensive analysis than existing studies in terms of the number of students and institutions and institution types; however, the scope of this study was limited to one state and the students attending institutions who chose to participate. Those institutions that chose not to participate could have environments where military and veteran student experiences are not recognized or those environments could differ in some way than the institutions that wanted to gain information by participating. Finally, this study focused on transition experiences but did so for all students at one point in time, meaning that some students were reflecting on their transition while others were actively transitioning.

Directions for Future Research

This study, as one of few quantitative studies on military and veteran students' transition experiences, recommends multiple areas for future research to build on the findings already presented. These recommendations include expanding the scope of the current study and building on the findings from the current study.

Longitudinal research

This study examined the transition experiences of military and veteran students at one point in time; future research should consider a longitudinal approach to address the role of transition and demographic factors and students move through transition toward the

completion of their degree and beyond in terms of alumni involvement. Additionally, future research should consider utilizing institution-reported GPA and retention information in conjunction with longitudinal studies.

Mixed methods approach

This study addressed military and veteran student transition through a purely quantitative approach. Future research should seek to utilize a mixed methods approach, drawing from both the quantitative results and findings gathered from focus groups or interviews based on the quantitative findings. The findings of this study were sometimes contrary to findings from existing qualitative studies, and a mixed-methods approach of the same population might provide a needed bridge between the two. A phenomenological approach focused on military and veteran students who did not persist, for example, could provide rich insight into additional factors influencing persistence. This approach may help to explain further explain the gap between the findings reported in this study and those in current qualitative studies. While existing qualitative studies have provided rich information about how military and veteran students experience their environment, a study focused on how students relate their experiences to their academic success and intent to return would provide important context for future quantitative assessment.

A mixed method approach may also prove useful in determining factors associated with intent to return for military and veteran students attending four-year institutions as current findings indicate that other factors outside of this study may play a significant role in predicting intent to return. Interviews with students who persisted and those who left the

institution could provide additional information in determining new areas to explore quantitatively in terms of intent to return.

Utilize more complex analyses

Correlation, OLS regression, and logistic regression were solid foundational analyses for this study. Future research may employ more complex analysis to examine the population. Hierarchical linear modeling would enable researchers to further explore the population within their specific institutional type (i.e., attending a community college vs four-year institution) (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004). This approach might also enable researchers to understand how variances in retention are based on student and institutional factors. Path analysis allows the researcher to examine the interwoven relationships between variables (Norman & Streiner, 2003); this would be a useful tool in understanding how or if relationships with peers or institutional agents have a mediating effect on other factors.

Focus on non-cognitive characteristics

Future research should seek to explore the role of academic self-efficacy and grit among military and veteran students in terms of how they develop these skills and how they recommend institutions assist military and veteran students in utilizing or developing these traits. Future research should also explore the role of grit in addition to the factors explored within this study.

Examine subpopulations

Different social identities shape the way in which students experience their environment (Iverson & Anderson, 2013). Although demographic characteristics were

explored in this study as variables, future research should consider subpopulations of military and veteran students. The study of military and veteran students has largely been the study of White, heterosexual male military and veteran students and with a population as diverse as the veteran population, higher education scholars have a wealth of sub-populations to explore.

The role of race and ethnicity is understudied with this population of students, especially given the high proportion of military personnel who identify as people of color; future research should seek to explore what similarities or differences exist with this population and how they may be supported in their transition and degree completion. Future studies should examine how military and veteran students of color persist and succeed compared to other students of color without military experience and compared with White students. Researchers repeatedly find that students of color are retained at lower levels than White students (Swail, Redd, & Perna, 2003) and this further examination could provide insight into how higher education can better serve all students of color.

Additionally, future research should strive to understand how people of different races experience the college transition as military and veteran students. Because of a limited number of students of color, this study defined race as a binary variable—White or non-White. Combining all non-White students within one racial category ignores unique experiences that may shape the transition experiences or academic outcomes for racial and ethnic subpopulations. Race and ethnicity are complex variables and future or larger studies should elaborate on the factors that influence racial groups specifically.

More attention has been paid to sex (e.g., Baechtold & DeSawal, 2009; Demers, 2013; Elliott, 2013) than to race and ethnicity where little, if any, published research exists;

but there is still a need to examine the experiences of women within the military and veteran student community, specifically related to other intersecting identities. This should include exploration of the effects of military sexual trauma, estimated to be experienced by as many as 15% to 20% of women in the military (Mattocks, Haskell, Krebs, Justice, Tano, & Brandt, 2012). Although sex exists within a biological continuum, often observed as a binary variable (male or female), gender exists on a much more socially constructed continuum (McCarthy, Arnold, Ball, Blaustein, & De Vries, 2012), and the role of gender, in addition to sex, should be examined in future research.

With the repeal of “Don’t Ask, Don’t Tell” in 2011, a policy that barred gay and lesbian individuals from serving in the United States military (United States Department of Defense, 2011), research on the experiences of gay, lesbian and bisexual military and veteran students should emerge as military personnel are no longer officially at risk of being discharged from service or barred from entering military service based on their sexual orientation. The findings may be valuable to inform current military and transition procedures.

Relationships as conduits to outcomes

Military and veteran student transition should be explored to see what role institutional agents can and should play in terms of supporting students and what the desired outcomes are for those relationships. Additionally, future research should explore more how relationships with institutional agents influence the transition experience, specifically the role campus veterans centers and staff play in mediating barriers or facilitating success.

Findings from this study revealed that it is not the relationship, itself, that is a contributing factor to academic success or intent to return, but it is worth considering how may that relationship be helpful to military and veteran students to address other factors? Future research should seek to learn how relationships can be leveraged to address factors that may predict intent to return and academic success—factors related to academic self-efficacy and preparation. One approach to this is through the use of validation theory.

Explore validation

Finally, future research should examine military and veteran students utilizing a validation as an outcome or exploring how validation interacts with other factors influencing intent to return and academic success. Validation was defined by Rendón (1994) as “an enabling, confirming and supportive process initiated by in- and out-of-class agents that foster academic and interpersonal development” (p. 44). Since 1994, validation theory has been cited in studies of student success as a valuable way to think about serving non-dominant students in higher education (Barnett, 2006; Barnett, 2011; Gildersleeve, 2001; Hurtado, Cuellar, & Guillermo-Wann, 2011; Rendón, 2002) and may now be a way to explore how relationships with faculty and staff can strengthen academic self-efficacy in military and veteran students. The data collected through this study were not sufficient to measure validation and, thus, it was not utilized. Future studies should consider including quantitative measures of validation such as those utilized by Barnett (2006) and Hurtado et al. (2011) or employ validation theory as the framework to guide a qualitative study.

Validation has largely been studied with women students and students of color. Francis and Kraus (2012) described their initial dissonance with using a theory traditionally

applied to the experiences of subordinated groups with military and veteran students, a group largely composed of White, heterosexual males. However, Durdella and Kim (2012) examined student veterans through cultural models of student learning which argue that students interpret their learning experience and environment through the lens of their cultural membership. In this context, military and veteran students are an underrepresented population because they identify with a military cultural membership that is different from the dominant, civilian majority culture.

Rendón and Garza (1996) suggested that validated students may be more likely to persist, and Persky and Oliver (2011) used validation in the framework for their the study of student veterans at a community college but only loosely connected validation to fostering awareness versus engaging in discussion about student achievement outcomes. Future research should seek to apply this theoretical framework more broadly to examine military and veteran student experiences, utilizing existing qualitative and quantitative studies based on validation as a framework.

Research on military and veteran students lends itself to the application of validation. Veterans and military students enter an environment where it may be difficult for administrators, faculty, and fellow students to fully understand their military experience, socialization, and culture. The major of military and veteran students are considered adult or non-traditional students (DiRamio & Jarvis, 2011). Duff (2009) suggested that many adult students, because of challenges such as family commitment and work expectations, require a learning environment which supports the attributes they bring to the learning experience. Higher education environments, like the rest of society, do not always provide a welcoming environment to students with non-traditional experiences which make it

important that there be other sources of support and encouragement (Bennett, 2006; Dandridge-Rice, 2003; Rendón, Jalomo, & Nora, 2002). Future research could explore how validation bridges findings from this study with findings from existing qualitative studies in terms how institutional agents can help to foster self-efficacy and academic preparedness in military and veteran students.

Conclusion

A student population showing academic success and graduation rates similar to the national average (Cate, 2014) may not seem like a population that institutions need to prioritize. Why, then, should institutions focus on serving military and veteran students? Why should resources be allocated to serve this population? Patriotism could be offered as a response or the need to serve all students; however, there is a much more pragmatic reason to allocate resources to serving this population.

The number of military and veteran students is expected to grow. Military and veteran students in this study reported academic success, showed signs of grit and perseverance and many entered the institution with life experiences that provide a unique perspective within a campus community. Military educational benefits provide financial support for eligible military personnel and veterans and many military and veteran students enter the classroom with real-world professional and leadership experience in their field of study. In short, this population of students *should* be successful, *should* be graduating, and *should* be shaping the fabric of their institutions—they have the tools for success and financial support to do so. The findings from this study indicated that certain measures could be used to increase the success of military and veteran students during their transition

with acknowledgement that programs designed for the student population broadly (i.e., traditional orientation programs, first-year learning communities) may not be beneficial for this population.

This population of students have unique experiences and faces unique challenges related to transition to the institution that may be significant but unrecognized by the institution. Along with challenges, military and veteran students are a valuable component of our institutional make-up and expanding our understanding of this population's needs will only allow us to better serve them. The findings from this study have implications for local and national efforts to promote the academic success, persistence and graduation of military and veteran students.

APPENDIX A. INSTITUTIONAL REVIEW BOARD APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 5/1/2013

To: Denise Williams
131 MacKay Hall

CC: Dr. Jathan Chicoine
3578 Memorial Union
Dr. Ann Gansemer-Topf
314 Enrollment Services Bldg

From: Office for Responsible Research

Title: Transition Survey for Student Veterans

IRB ID: 13-206

Study Review Date: 5/1/2013

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
 - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
 - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.

Please be aware that **approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that**

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OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
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515 294-4566
FAX 515 294-4267

Date: 8/15/2013

To: Denise Williams
131 MacKay Hall

CC: Dr. Ann Gansemer-Topf
314 Enrollment Services Bldg

From: Office for Responsible Research

Title: Transition Survey for Student Veterans

IRB ID: 13-206

Study Review Date: 8/15/2013

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Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 10/29/2013

To: Denise Williams
131 MacKay Hall

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314 Enrollment Services Bldg

From: Office for Responsible Research

Title: Transition Survey for Student Veterans

IRB ID: 13-206

Study Review Date: 10/29/2013

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APPENDIX B. MISSING DATA

Variable	Code	Number of Missing Values
Institution type	TYPE	0
Private or public institution	PRIVATE	0
Sex	SEX	0
Race	RACE	21
First generation	FGEN	12
Combat deployment experience	DEPLOY	1
Service-related injury/disability	INJURY	29
Spouse/Dependent Children	FAMILY	8
Understood the process for securing MEB	FUNDERSTOOD	11
Process for securing MEB was hassle-free	FHASSLEF	15
MEB were sufficient to cover needs	FCOVER	23
The process for securing MEB was what I expected	FEXPECT	23
MEB were sufficient to cover needs	FDETERMINE	21
Felt academically prepared to enter the institution	AIPREP	8
Felt academically overwhelmed	AIOVERW	9
Experience meeting professor's expectations	AIEXPECT	45
Understood process for military credit transfer	ACUNDERSTOOD	75
Level of satisfaction with credit application	ACSATISFIED	200
Experience obtaining credit for military service	ACOBTAİN	216
Instructors valued the life and work experiences gained from military service	PVALUE	107
Felt like an important member of the community	PFELT	81
Institution was welcoming for military and veteran students	PWELCOME	36
Institution was well-prepared to assist military and veteran students	PPREP	39
Institution cared about military and veteran students	PCARED	66
Relationship with fellow military and veteran students	RMILSTU	47
Relationship with Veteran staff	RVSTAFF	47
Relationship with Faculty	RFAC	51
Relationship with Academic adviser	RADV	47

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