THE ROLE OF SOCIAL INTEGRATION AND SENSE OF CONNECTEDNESS IN ONLINE AND HYBRID COURSES AND THEIR INFLUENCE ON PERSISTENCE RATES AND ACADEMIC PERFORMANCE AMONG MILITARY STUDENTS

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAI`I AT MĀNOA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION

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“The promise of digital is not greater reach, but greater connectedness.” — Bharat N. Anand

“I believe in Jesus Christ like in a rising sun: not because I can see it, but, because of it, I can see everything else.”
— C. S. Lewis

First and foremost, I am greatly thankful to God for guiding my steps each day, for helping me grow each day, and for putting education at the heart of my passion to strive being an effective teacher in order to help others achieve their academic dreams. I’m also very grateful to my Mom, Dad, and my Sister Martina for supporting me throughout this long but rewarding Ph.D. journey. In particular, as an outstanding educator for over 40 years back home in Poprad-Matejovce, Slovakia, EU, my Mom has also been such an inspiration to me in terms of having a ‘heart of a teacher’, which is one of the most important ingredients that an educator must possess to create a positive change in this world. Lastly, I am also very grateful to Kristine T. Merc for her love and support during this academic journey.

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ABSTRACT

Social integration and a sense of connectedness are important elements in many attrition and student persistence models in higher education. Due to the increased popularity and offerings of distance education courses in recent years, this research study explored the role of social integration and a sense of connectedness among military students in online and hybrid course modalities to better understand effects on persistence rates and academic performance among this fast-growing population of nontraditional learners.

This study used quantitative analysis combined with focus group findings to examine the perception of social integration and a sense of connectedness using Bean and Metzner’s Adult Student Persistence Model (1985) as its theoretical framework. The study sought to answer six research questions related to social integration, sense of connectedness, persistence rates, and academic performance in two course modes (online, hybrid). The site for the study was a local military-friendly academic institution that has one of the largest enrollments of military learners in Hawai‘i.

Ratings for social integration and sense of connectedness were low in both course types. Statistical tests showed no significant differences between the online and hybrid course modalities in terms of course persistence rates and final grades of students or in measures of social integration and sense of connectedness. A Pearson product-moment correlation demonstrated no statistically significant relationships among social integration, sense of connectedness, persistence, and academic performance. Lastly, regression analysis indicated only one variable (sense of connectedness) was statistically significant in terms of predicting academic performance (grade) among the military students in online courses. Focus group findings revealed that military students placed importance on social integration and a sense of connectedness in both course modes but perceived it differently. Some desired to have a stronger
relationship with faculty, while others put emphasis on being understood better as an adult learner among their peers and instructors. A finding of this study was that better understanding of the need of military learners and how they prefer to learn could lead to improved course persistence and academic performance regardless of what course modality they participate. This study has implications for hybrid and online class educators, administrators, as well as policy makers, to more effectively support the growing student population of military students in programs across the nation.
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CHAPTER 1. INTRODUCTION

Introduction

In recent years, higher education institutions have experienced two trends that are the subject of this study: (a) increased use of online and hybrid models of distance education to serve students, particularly nontraditional learners (New Media Consortium, 2014), and (b) increased numbers of military undergraduate and graduate students accessing their educational benefits and seeking to enroll in online and hybrid courses (Smucny & Stover, 2013).

Due to innovations and the advancement of distance education technologies, there has also been a rapid increase in adult learner enrollment among many post-secondary institutions (Melkun, 2012). In April of 2018, the National Center for Educational Statistics (NCES) reported a 35 percent increase in college students aged 25 to 34 years of age between 2001 and 2015. The NCES institution also projects the adult learner enrollment in degree-granting institutions to increase by 11 percent between 2015 and 2026 in the United States (Smith-Barrow, 2018).

The number of students enrolled in at least one distance education course from 1999 to 2015 increased steadily from 10 percent to 30 percent nationwide (NCES, 2014; NCES, 2018). Furthermore, Allen and Seaman (2017) reported that approximately half of the six million students enrolled in at least one online course participate in an academic program that is exclusively offered online. However, despite the ease of access to various modalities of distance education learning that today’s technology provides to a variety of students, online student retention rates have remained lower compared with traditional learners who physically attend classes on campuses (Angelino, Williams, & Natvig, 2007; Bawa, 2016). Smith (2010) emphasized the alarming trend of increased attrition rates as high as 80% in online course modalities. Also, as Russo-Gleicher (2013) pointed out, the retention rates of distance education
students were approximately 10 to 20% lower than traditional students participating in brick and mortar classrooms. Therefore, notwithstanding the advancements in the online delivery, low student persistence and retention became a major challenge for academic institutions that offer such online courses or programs (Chiyaka, Sithole, Manyanga, McCarthy, & Bucklein, 2016).

Furthermore, since the volume of military learners enrolling in postsecondary education has been rapidly increasing, approximately 200,000 new enrollments in 2015, there seems to be an urgent need to learn more about the processes that these nontraditional students go through when transitioning from their military environment into higher education. Therefore, it is important for both faculty and administrators in academic institutions to better understand this unique learner population, especially when the current research reports low rates of bachelor’s degree attainment as well as comparatively high rates of dropout and non-persistence among student veterans (Jenner, 2017).

For the purposes of this research, nontraditional students are characterized as those who meet any one of the following characteristics: 25 years of age or older, have a five-year gap between enrollment in high school and college, employed part-time or full-time, or fulfill a role of a spouse, domestic partner, parents, or caretaker (Markle, 2015). Student Veterans are regarded as a diverse subpopulation with similar characteristics of nontraditional students on college campuses today, and they are often defined as any student who is a current or former member of the active duty military, the National Guard, or Reserves of the United States Armed Forces utilizing the G.I. Bill educational benefits. As Maury (2018) pointed out:

The demographics of those attending higher education institution are changing. In fact, it is estimated that by 2025 more than 50 percent of the student population will be nontraditional students. Student veterans fall into that nontraditional category.
Furthermore, military learners also face additional challenges, such as injuries and disabilities sustained during the military service, as well as juggling multiple role identities of the military, work, and academic environments, thus increasingly being reliant on online learning for convenience and self-paced learning (Ford & Vignare, 2014). Therefore, it is important to further examine this specific type of students, who often attend colleges primarily serving traditional students.

Current research points to multiple factors that contribute to low persistence rates in distance education among various groups of learners, such as environment (Lee, Choi, & Kim, 2013), learner’s educational background (Ford, Vignare, 2014), social and family factors, and motivation or institutional support (Bawa, 2016). Additionally, social integration has also been a significant aspect of learning as described and identified in seminal work on student persistence from Tinto (1987, 1993), Bean and Metzner (1985). Also, Moore (1993) emphasized the importance of social integration in online course modalities. Social integration built from student-student and student-teacher interactions can in various ways support student persistence, satisfaction, and learning (Tinto, 1975). The main focus of Tinto’s (1993) updated student integration theory are social and academic factors that affect a student’s commitment to the institution in terms of class persistence and later graduation. The academic factors represent student engagement in activities related to student success, such as attending labs, classes, and doing research in a library. Social factors include interactions with peers and involvement in extracurricular activities (Tinto, 1993). While Tinto’s (1993) later model has a similar structure when compared to his previous theoretical frameworks, it also focuses on the importance of the rites of passage. It describes the separation process of a student from their family or high school friends and adopting values and behaviors of their college peers and faculty in order to stay committed in their academic pursuits (Bean, 2001). However, some of Tinto’s critics argue that
his student persistence model could be viewed as assimilationist in terms of focusing mostly on a college community of students of prevailing values, principles, and behaviors, thus possibly making other peripheral communities of students, such as the first generation or under-represented minorities (URM) more marginalized, potentially leading to higher dropout rates when compared to the dominant group of students at an institution (Lee & LaDousa, 2015). Both Tinto and Bean and Metzner focused only on face-to-face classes, and little is known about how social integration contributes to persistence and learning in distance education courses, and more specifically, for online and hybrid populations of military students.

In addition to social integration, sense of connectedness (Childress & Spurgin, 2009) was identified as an important factor in improving academic outcomes for students. Childress and Spurgin (2009) and Rovai, Wighting, and Liu (2005) also highlighted the importance of sense of connectedness in successful completion of online courses and programs. Furthermore, as Tinto (1993) pointed out in his work on student persistence, the more universities strive to create social atmosphere in their educational environments that promotes active participation of students among their peers and faculty, the more dedicated students become, and they stay engaged in their classes as well as most likely remain at the particular institution.

Lastly, sense of belonging is often perceived as one of the fundamental human needs when it comes to social interactions. As Strayhorn pointed out, sense of belonging is an important element of motivation, engagement, and self-efficacy of students participating in a classroom setting (2012). It is often one of the first needs that teachers should attend to in order to help students succeed academically and create positive relationships with other learners in a classroom environment, whether it be online or face-to-face (Lewis, 2016).

Military students are at risk of higher dropout rates in online and face-to-face courses (Levy, 2009), and also have lower academic and social competencies needed for academic
success compared to traditional students (Sorey & Duggan, 2008). While there have been many studies and theories related to student persistence and academic and social integration (Rienties, et al., 2012; Rubin, 2012; Shea, & Bidjerano 2014), little research exists that focuses specifically on the influence of social integration on persistence and academic success for military students, and even less on these issues for military students in online and hybrid environments. Lastly, while research has documented the importance of sense of connectedness in online course success (Childress & Sprugin, 2009; Rovai et al., 2005), again, little is known about this aspect specifically for military students in online and hybrid courses.

Statement of the Problem

I briefly present here the intersecting topics at the heart of this study. This research sought to address the growing numbers of military students, the expansion of distance and hybrid programs, their role in serving military students, and the role of social integration and sense of connectedness in persistence of military student.

As an Internet-driven education format, distance education is primarily known to use current and emerging technology tools to provide curriculum and instruction to students participating in their online classes locally as well as internationally, thus providing ease of access and flexibility of learning (Sener, 2010). From 2002 to 2009, the online enrollment of college students increased between 15% to 30%, which made online education not merely a trend, but a viable teaching and learning modality for many academic institutions. Growth in online enrollment continued at a 7% overall growth from 2012 to 2014 with 5.8 million distance students in 2014 (Allen, Seaman, Poulin, & Straut, 2016). There are many advantages of offering classes in online formats to various student groups, such as cost effectiveness, global accessibility of class curriculum, and diversity of traditional and adult learners from various
personal as well as professional backgrounds (Li & Irby, 2008). It is expected that thousands of veterans will take advantage of their educational benefits in coming years, and many will seek to access online programs (Hills, 2010). However, little research has been done on social integration or sense of connectedness among student veterans, and how it influences their willingness to persist or non-persist as well as their academic success in distance education courses, such as online and hybrid learning environments.

**Background**

In the study of student veterans, one of the main limitations is the current lack of nationally available data about this particular student group. The reason behind it is that most research about student veterans has been qualitative and descriptive in nature (Jenne, 2017). Besides examining the results of these important qualitative studies about the nature of student veterans in higher education, it is also imperative to look more closely at important structural factors that could offer us insights into differences within the student veteran population, the role of social integration and sense of connectedness among these learners, and how they affect their course persistence and academic performance. To further understand the problem, some background information is provided next.

Three components are examined briefly and will also be more fully covered in the literature review. One examines postsecondary online and hybrid courses, the second is a brief review of military students in higher education, and the third considers the issue of persistence.

**Postsecondary Online and Hybrid Courses**

Allen and Seaman (2013) reported that almost four million students were enrolled in online courses in the United States. Combined with a healthy 7% growth rate in online enrollments between fall 2012 and fall 2014, distance education expansion has become a priority
at academic institutions in the United States. During this time, in-person enrollments continue to decline (Allen, Seaman, Poulin & Straut, 2016). Since its early growth, online academic institutions have primarily been serving adult learners, defined as students older than 24 years of age. This type of learner comprised almost 40% of the entire student population in higher education in fall 2012 (Hoey, McCracken, Gehrett, & Snoeyink, 2014). With rapid growth of distance education courses among higher education institutions, there is increased concern over the retention of online, mostly nontraditional students, in such classroom modalities.

There are a variety of forms of online learning from completely online to mostly face-to-face with some online activities (Allen & Seaman, 2013). The first form of distance education programs are online courses that utilize Internet-based educational tools in order to deliver the entire course content on the Internet to students around the world. Students can participate in these types of online courses without the need to be physically present on campus. To summarize, an online course is defined as one in which 100% of the instruction and student-instructor interaction is performed online (Xu & Jaggars, 2011).

Another form of distance course is referred to as hybrid. From the researcher’s teaching experience, hybrid courses combine the characteristics of face-to-face class sessions with students and online access to class materials, discussions, and homework via a technology medium that provides opportunities for faculty and students to collaborate and learn. A simple way to understand a hybrid course is to view it as a method of delivering course content in which there is a combination of face-to-face and virtual contact between students and instructors (Dawson, 2010). Although many definitions of hybrid and blended learning exist, there is a convergence upon three key points (Xu & Jaggars 2011; Sloan Consortium, 2011):

1. Web-based learning activities are introduced to complement face-to-face work,
2. "Seat time" is reduced, though not eliminated altogether, and
3. The Web-based and face-to-face components of the course are designed to interact pedagogically to take advantage of the best features of each.

Sloan Consortium (2011) characterized hybrid courses as the following: “Hybrid courses as those that integrate online with traditional face-to-face class activities in a planned, pedagogically valuable manner” (pp. 32-33).

Another way to understand a hybrid course is to view it as a method of delivering course content in which there is a combination of face-to-face and virtual contact between students and instructors. In other words, when any portion, up to 50%, of the traditional face-to-face contact hours with students is replaced by online contact hours, the course is considered hybrid (Dawson, 2010).

According to Dawson (2010), the birth of alternate types of course modalities became more important as educators and psychologists have started to examine how people learn and how they can be engaged more during their time spent in such academic class types. Hybrid courses may have the potential to enhance social integration among military students. Furthermore, the impact of connectedness was one of the key elements in Dawson’s (2010) study. Based on the importance of connectedness in formal and informal education, online and hybrid course environments have the potential to build a sense of connectedness among students in various universities and colleges across the nation (Dawson, 2010).

Lastly, institutions need and want students to stay and finish their courses and degree plans since learner persistence and academic performance are among the most important measures of student success (Hobson & Puruhito, 2018). Besides these two measures, institutions use data from course persistence and academic success as opportunities for increased funding from the U.S. government in terms of grants and scholarships, thus attracting a variety of students and increasing its long-term institutional reputation.
Military Students in Higher Education

At the end of World War II, the U.S. government increased its support for veterans when it passed the Serviceman’s Readjustment Act of 1944, also known as the G.I. Bill. The U.S. government recognized the importance of educational opportunities for veterans by passing this bill in order to help veteran-students with the costs of college tuition and general academics-related expenses. In coming years, the G.I. Bill was revised to reduce the increased cost of college, which offered wider benefits to veterans returning from wars in Iraq and Afghanistan (Wright, 2009).

The explosion of distance education programs and technological advances in communications allow U.S. soldiers to have Internet access in almost any remote region of the world, thus creating opportunities for learning in every geographical area (Hills, 2010; McMurray, 2007). Thanks to the recent technological advances of the Internet and the rise of online educational tools that render geography mostly irrelevant for teaching and learning, U.S. military members are increasingly taking advantage of educational benefits and opportunities as presented by the Montgomery G.I. Bill of Rights as well as the recent post 9/11 G.I. Bill (McMurray, 2007).

It is estimated that between 2009 and 2012, roughly three million veterans were eligible for the Post 9/11 G.I. Bill benefits, and an increased number of academic institutions across the United States have witnessed a high number of student-veteran enrollments in recent years, especially in distance education courses (Stringer, 2011). In 2012, almost $10 billion dollars in military educational benefits were paid out to institutions to support military learners in their academic pursuits, who represented approximately 4% of all undergraduate students nationally (Radwin, Wine, Siegel & Bryan, 2013). Additionally, roughly 96% of colleges and universities
included active military members, and veterans of their family dependents as important subgroups of their total student body composition (Queen & Harper, 2014).

In particular to the Post 9/11 G.I. Bill, many current veterans arriving from battlefields in various parts of the world intend to attend college by taking full advantage of their individual military benefits. However, they often bring with them a large variety of military experiences, concerns and injuries, such as post-traumatic stress disorder (PTSD) and brain injuries, to which many other nonmilitary students might not relate (Dawson, 2010). Table 1-1 below contains a snapshot of factors that predict an easy or hard re-entry into civilian life by military service members (Morin, 2012). In summary, the Post 9/11 G.I. Bill was approved in August 2009 for veterans to take advantage of improved educational benefits and to help them transition from the military into their civilian lives (Wilson, 2009).

Table 1-1. Veteran’s Characteristics and Their Influence (% change) When Re-Entering Civilian Life

<table>
<thead>
<tr>
<th>Harder Time</th>
<th>Easier Time</th>
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<tr>
<td>Experienced a traumatic event (-26)</td>
<td></td>
</tr>
<tr>
<td>Seriously injured (-19)</td>
<td></td>
</tr>
<tr>
<td>Post-9/11 veteran who was married while</td>
<td></td>
</tr>
<tr>
<td>Post-9/11 veteran (-15)</td>
<td></td>
</tr>
<tr>
<td>Served in combat (-7)</td>
<td></td>
</tr>
<tr>
<td>Knew someone killed/injured (-6)</td>
<td></td>
</tr>
<tr>
<td>College Graduate (5)</td>
<td></td>
</tr>
<tr>
<td>Understood missions (10)</td>
<td></td>
</tr>
<tr>
<td>Officer (10)</td>
<td></td>
</tr>
<tr>
<td>Religious post-9/11 veteran (24)</td>
<td></td>
</tr>
</tbody>
</table>
Levy (2009) wrote that some universities report military student attrition rates approximately 26 percent higher in their online courses than in physical face-to-face classroom environments. Sorey and Duggan (2008) also emphasized that on both physical and online campuses, student veterans often lag behind traditional students regarding academic and social competencies. Moreover, Glantz (2012) reported that between 2009 and 2012, approximately three percent of veterans graduated within six years, compared to 30 percent of traditional students. Why these differences?

Stringer (2011) argued that non-traditional military students often experience issues of alienation and lack of social integration that inhibits them from effectively assimilating into distance education courses. Similarly, DiRamio, Ackerman, and Mitchell (2008) pointed out that student veterans are often described as socially isolated and hesitant to ask for academic help among their peers (often traditional students) primarily due to their past involvement with military superiors and authorities. Military students’ experience of being part of a team, an intense and close connectedness strengthened by shared experiences, particularly during combat, may influence their later experiences in taking classes (Jaschik, 2010). Thus, when exposed to online learning, military students might perceive that other learners in the online environment do not understand their challenges, resulting in higher non-persistence rates among military students (Stringer, 2011).

Lower academic performance, social alienation, and other personal demands have important and often negative effects on academic and social integration for nontraditional students (Tinto, 1987). Since the latest legislation on student veteran benefits was passed in 2009, there has been little research to examine the role of social integration among new student veterans participating in online and hybrid courses as well as how institutions address student challenges with sense of connectedness in academic settings (Wilson, 2009). Additionally, the
current literature review also identified some social and academic difficulties of student veterans in today’s college environment when they transition into college from their extensive military service.

As higher education institutions seek to successfully serve this population, it is important to understand more about how social aspects of integration affect the intent of student veterans to persist in their academic endeavors. Perhaps a hybrid approach to courses would lead to better social integration and persistence for military students. More research is needed to examine how social integration and sense of connectedness contribute to persistence rates as well as academic performance of student veterans in distance education. Overall, the components that contribute to the problem this research sought to address include: growing numbers of military students, the expansion of distance and hybrid courses and their role in serving military students, and the role of social integration and sense of connectedness in student persistence and academic performance.

**Persistence in Higher Education**

Course persistence and overall academic retention of students in higher education has been a topic of major discussion for many decades. As we are witnessing the transformation of the current educational landscape in America in terms of the needs of students with various backgrounds, many institutions consider their retention efforts of helping learners in their programs to persist and graduate as one of the most important priorities. Truly understanding the characteristics of traditional and non-traditional students, such as military learners, plays an important role in creating course environments where all students can experience a sense of belonging, which in turn, might increase their overall academic performance. Furthermore, since student retention metrics are often related to the level of governmental funding for many public
institutions, course persistence outcomes have become an important indicator of graduation rates. This in turn relates to performance-based funding initiatives by state and federal agencies, and therefore, persistence of students is increasingly becoming an important metric for success (Sousa, 2017).

**Student Course Persistence and Retention**

Currently, many institutions of higher education find themselves competing heavily for student enrollments, and increased competition from for-profit academic organizations further highlights such competition. For the purposes of this study, persistence was related to a student’s act of completing the course that he or she enrolled in during the semester and persisted by being enrolled in the subsequent semester. In other words, persistence referred to the act of continuing towards an educational goal (e.g., earning a bachelor’s degree) by being continuously enrolled in at least two consecutive semesters at the same academic institution (Voigt & Hundrieser, 2008). In this study, the student persistence was measured by the number of students, who persisted from one semester to the next, and later to overall degree completion.

Due to high dropout rates and low course persistence among online learners, colleges and universities now must focus on better understanding of distance education environments that foster student persistence as well as academic success to ensure long-term success. Institutional, program, and course effectiveness can lead to successful completion of courses and degrees among both traditional, adult, and military learners. Understanding what specific factors lead to a student completing or not completing a course can help higher education administrators and faculty members with efforts in increasing student retention, academic satisfaction, and completed graduation (Brown, 2012). A better understanding of whether certain delivery formats are more successful in developing social integration and sense of connectedness as well as
retaining military students with satisfactory academic performance can again benefit both institutions, students, and the world society as a whole.

**Social Integration**

It is expected that thousands of veterans will take advantage of their educational benefits in coming years, and many will seek online course offerings (Hills, 2010). For many military learners, online and hybrid courses provide the perfect balance when trying to manage multiple responsibilities of a nontraditional type of a learner. According to Tomar (2019), student veterans already possessed valuable skills and traits developed while in their military service, such as self-discipline, goal-orientation, and time management, in order to help them succeed in online classrooms. Also, online courses usually do not get canceled that frequently compared to face-to-face, instructor led courses. Therefore, it is perhaps more efficient for the military students to complete their degrees online than in traditional face-to-face environments.

However, little research has been done on social integration among student veterans, and how it influences their willingness to persist or non-persist in distance education courses. DiRamio, Ackerman, and Mitchell (2008) pointed out that student veterans are often described as socially alienated and hesitant to ask for academic help among their non-veteran peers primarily due to their past involvement with military superiors and authorities in a rigid organizational structure that can be much different from a more fluid institutional structure found in colleges and universities. Therefore, social integration can be defined as student behaviors related to social interaction and involvement, including meeting with other students, creating friendships in extracurricular activities, and attending social events. It is often viewed as an interaction between the individual learner and the social system of an academic institution (Ting, 2008). Lastly, social integration relates to “The development (through peer associations,
activities, faculty/staff contact, etc.) of sufficient congruency with some part of the social system of the college” (Tinto & Cullen, 1973, p. 60). Bean and Metzner’s Adult Student Persistence Model (1985) focused on student attrition for commuter and non-traditional student groups and found social integration to be an important factor.

**Sense of Connectedness**

Sense of connectedness (SOC), an individual's feeling of membership, influence, need fulfillment, and emotional connection, is another variable that is mentioned in previous research studies focused on student persistence and academic performance in learning environments (Thomas & Bowie, 2016). Distance education courses offer convenience and ease of access; however, they also limit physical interaction between students and an instructor, which can lead to lower student retention in these online environments. As Budny and Paul (2004) noted, student course persistence is positively affected by a well-supported academic connectedness that includes effective communication and support from student peers, faculty, and the institution. By extending the sense and feeling of connectedness in online and hybrid courses, faculty members can provide high-level engagement to positively affect student persistence in such modalities (Longwell-Grice & Longwell-Grice, 2008). Thus, it is important to better understand what role, if any, the sense of connectedness has among military students, their academic results, as well as their course persistence rates.

**Academic Performance**

As described by Tinto (1987) in his seminal work on student persistence in higher education settings, the lack of social integration and other personal demands have important effects not only on social alienation of nontraditional students among their peers in the classroom settings, but it can also affect academic performance of learners, thus influencing persistence and
non-persistence rates for these types of students. Furthermore, Tinto (1993) emphasized that students who do not engage in social integration are less likely to persist in college and tend to drop out at faster rates than students who experience high social integration, contributing to their improved academic performance.

Past research identified the social and academic difficulties of student veterans in today’s academic environment when transitioning into college from their military service. However, since the latest legislation on student veteran benefits was passed in 2009, there has been little exploration to examine the role of social integration among new student veterans participating in online courses and how institutions address student challenges with sense of connectedness in academic settings (Wilson, 2009). One study from 2011 focused on the relationship of social and academic integration on the student persistence rates among student veterans by also using Bean and Metzner’s persistence theory model (Barnhart, 2011). However, this particular study only examined the attrition rates in two-year colleges. Studies that focus on hybrid and online course modalities to observe the relationship of academic and social integration on persistence rates among the military student population were not found. More research is needed to examine how social integration and sense of connectedness contribute to persistence rates and academic performance of student veterans in online and hybrid courses.

Therefore, this research study examined student veteran groups using the frameworks of social integration and sense of connectedness on persistence (completion of a course from start to finish and re-enrollment in the subsequent semester) and academic performance (completion of a course with a passing final grade) of undergraduate military students in both online and hybrid courses.
**Purpose Statement**

This research study examined the dependent variables of social integration, sense of connectedness, persistence, and academic performance in online and hybrid courses that serve military students. Social integration and sense of connectedness are emphasized in this study. The Bean and Metzner Model (1985) was used as a theoretical framework. Social integration can be defined as student behaviors related to social interaction and involvement, including meeting with other students, creating friendships in extracurricular activities, and attending social events (Davidson & Wilson, 2013). Tinto (1987) emphasized that students who do not engage in social integration are less likely to persist in college and tend to drop out at faster rates than students that experience high social integration. Furthermore, Childress and Spurgin (2009) and Rovai et al. (2005) emphasized the importance of developing a sense of connectedness in online courses.

This research study focused on online and hybrid course modalities, and whether military students experience varied levels of social integration and sense of connectedness, as well as overall course retention and academic performance taking such classes in an eight-week semester format. The eight-week format is used by the local academic institution to move its students from one semester to another without having large breaks or gaps between semesters. This seemingly helps military students complete more courses in a given academic year, thus helping them to potentially graduate earlier compared to traditional semester schedule.

The purpose of this quantitative explanatory research study was to examine the effects of online and hybrid academic courses for military students on their social integration, sense of connectedness, persistence rates, and academic performance. Consequently, this study contributes to the literature on military students’ educational experiences, and the role online and hybrid classes might play in influencing social integration, sense of connectedness, persistence, and academic performance in distance education course modalities.
Research Questions

There are six main research questions for this study:

RQ1: Are there differences in course persistence rates among military students enrolled in online and hybrid courses?

RQ2: Are there differences in measures of social integration based on Bean and Metzner’s adult student persistence model among military students enrolled in online and hybrid courses?

RQ3: Are there differences in feeling a sense of connectedness among military students enrolled in online and hybrid courses?

RQ4: Are there differences in academic performance among military students enrolled in online and hybrid courses?

RQ5: What is the relationship between social integration and sense of connectedness and course persistence and academic performance among military students enrolled in online and hybrid courses?

RQ6: How well does level of social integration and strength of sense of connectedness predict persistence and academic performance of military students in online and hybrid courses?

Significance of the Study

The findings of this study inform both theory and practice in distance education. By closely examining social integration, sense of connectedness, academic performance and persistence among military students enrolled in online and hybrid-based courses, one can gain a better understanding of factors that might influence persistence and academic success in these technology-mediated environments. The results of this study might help institutions of higher education better understand the needs of military students as well as help to create more effective academic environments to support higher retention and success rates among the growing body of
military students taking advantage of current G.I. Bill benefits to complete their academic
degrees via online and hybrid courses. Furthermore, this research provides insights into online
military learners, thus potentially helping them succeed in academia as well as in the worldwide
communities in which they live and serve.

Conceptual Framework

Based on the literature review, Bean and Metzner’s Adult Student Persistence Model
(1985) as a theoretical model was used as conceptual base for this research study because social
integration is one of its main components (see Figure 1-1). This model incorporates elements
reflected in two other frameworks, Tinto’s Model of Student Persistence (1985) (see Figure 1-2)
and Billings’ Model for Persistence in Distance Learning (Potter, 2013). The Adult Persistence
Model was originally derived from Tinto’s revised Model of Student Persistence (see Figure 1-2)
that primarily focused on academic aspects of student retention rates in postsecondary education
courses (Tinto, 1982, 1993). The theoretical framework (see Figure 1-3) also incorporates
Sarason’s (1974) concept of sense of connectedness, and it reflects the components of interest in
this study and from the conceptual framework.
Figure 1-1. Bean and Metzner Adult Student Persistence Model
Figure 1-2. Tinto’s Model of Student Persistence

Figure 1-3. Study’s Conceptual Framework
Summary of Methodology

This study utilized a non-experimental causal-comparative and correlational research design to examine the relationship between online and hybrid course delivery format (independent variable) and social integration, sense of connectedness, course persistence, and academic performance (dependent variables). Methodology will be described in more detail in Chapter 3.

Role of the Researcher

I am an instructor of distance education courses at a private higher education institution in Hawai`i. My main responsibilities are in the area of online undergraduate programs and student support for non-traditional students, including active duty and veterans, as well as other adult learners. Since my initial experience teaching hybrid and online classes for the military student population, I have been interested in various factors, both internal and external in nature, that might contribute to persistence rates and academic performance among military students in distance education courses.

As an academic military lecturer, I have been fortunate to experience numerous student perspectives to better understand their needs when it comes to successful completion of online and hybrid courses in order to complete their academic degree plans. I wanted to apply my research framework at this local university that currently has the largest active population of military students in Hawai`i. At this institution, specialized 8-week hybrid courses have been developed for the military student population in order to help them complete their academic studies in a shorter timeframe when compared to traditional 15- or 16-week semesters at other academic institutions, as well as to help them manage family and professional demands of these
non-traditional types of learners. The institution also offers completely online courses that specifically target the military student population.

**Limitations and Assumptions**

Some of the limitations of this study relate to causal-comparative and correlational research that cannot exactly determine cause-and-effect relationships between variables. Other limitations include:

- Convenience sampling will be used to include military students enrolled in the same course subjects in both online and hybrid courses during the two eight-week semesters;
- Only one institution, which is a private institution will be studied, thus findings may not generalize to other types of institutions;
- Only undergraduate students will be studied so results may not generalize to graduate level students; and
- Surveys provided self-reported data and respondents may or may not have been truthful in their responses.

In addition to these limitations, a number of assumptions are made. The assumptions for this study include:

- The sample size should be sufficiently large enough (60 to 80 responses) in order to avoid possible Type II error, which can occur when a null hypothesis is false, and a researcher fails to reject it.
- All students enrolled in courses for military students are actually military students, with either active duty or veteran status.
- Respondents of the self-report survey are assumed to be honest in their responses.
- Courses purported to be online and hybrid meet the criteria for being so identified.
• There are insignificant differences between active and non-active military personnel using G.I. benefits.

• Instruments adequately measure social integration and sense of connectedness.

**Definitions of Key Terms**

A few terms are defined operationally for the purposes of this research study below:

**Academic Performance:** Measurement of student work in a range of A, B, C, D, and F for the final course grade.

**Hybrid/Blended Course:** A course format that delivers face-to-face teaching in online education by implementing both online web-based teaching and limited seat time in a residential classroom during enrollment of a single course (Brunner, 2006).

**Isolation:** An emotion expressed by a student pursuing a degree in a distance education environment, including feelings of loneliness, lack of motivation, as well as limited interaction with other students, professors, and support personnel (Ali & Leeds, 2009).

**Military Student:** Any military personnel that serves or served in the U.S. Armed Forces and is eligible to receive G.I. Bill benefits.

**Non-Traditional:** Students who were over 24 years old when they started their first regular term at college (Brunner, 2006). Also, students who have one or more of the following characteristics: delayed enrollment, part-time enrollment, full-time employment, financially independent, and family commitments (NCES, 2002a). For the purpose of this research study, a nontraditional learner is specifically defined as age 25 and over or age 18-24 (married and/or with dependents).

**Online Course:** The course content is delivered electronically using the Internet or other computer-based methods (Sener, 2010).
**Persistence**: Persistence refers to the act of continuing towards an educational goal (e.g., earning a bachelor’s degree) by being continuously enrolled in at least two consecutive semesters at the same academic institution. Generally, persistence measures the number of students who persist from one semester to the next and later to overall degree completion (Voigt & Hundrieser, 2008).

**Retention**: The act of keeping a learner registered in a degree-granting program at college from one semester to the next until the student has completed the degree program (Ali & Leeds, 2009).

**Sense of Connectedness**: A feeling of being “part of a readily available, mutually supportive network of relationships upon which one could depend, and as a result of which, one did not experience sustained feelings of loneliness” (Sarason, 1974, p. 1).

**Social Integration**: The taking of action(s) to connect with peers, professors, and support personnel in distance (online) education environment (Martinez, 2003).

**Summary**

Chapter 1 introduced the study as well as the topic of persistence of student veterans in higher education generally, and distance education specifically. The historical significance of the G.I. Bill was provided to highlight its importance for military students, who currently take advantage of such benefits at the highest rate since World War II (New GI Bill Overview, 2008). Deficiencies in the literature related to issues of persistence and completion rates among military students and student veterans in both face-to-face and distance education settings were also discussed in this chapter. The main objective of this research study was to better understand the role of social integration and sense of connectedness in online and hybrid-based courses serving military students, and ultimately whether these might increase retention rates and academic performance in those courses. Retention rates have become an important indicator of long-term success and funding for higher education institutions. Creating appropriate academic
environments can help colleges and universities to focus their limited resources on helping military students in online and hybrid courses to succeed in their academic endeavors and to help with their overall retention efforts.

Lastly, as more universities focus on student veterans in their distance education courses, and the awareness of military veteran needs becomes more prevalent in higher education, it is imperative to better understand what strategies administrators can use to help these nontraditional students to persist in their academic coursework in order to complete their degrees.
CHAPTER 2. REVIEW OF LITERATURE

Introduction

This literature review examines the growing population of military students with the emphasis on current research about sense of integration and retention rates in distance education courses for military nontraditional learners. The review synthesizes recent scholarly literature on growing trends and reasons for enrollments among military learners, their current retention rates, and the impact of such rates for students and institutions, followed by key research findings about theoretical frameworks that relate to student persistence and retention studies. Then, the review synthesizes studies on military training, teamwork, and social integration. Lastly, the review concludes with studies on online and hybrid academic programs, as well as benefits and drawbacks that influence program outcomes and retention rates among online military students.

Military Students and Distance Education

The importance of the citizen-soldier concept has been part of American society and tradition since colonial times. Stern (1957) was first to offer a historical perspective on the concept of citizen-soldier, which was originally derived from ancient Greece and Rome. The model was adopted due to the fear of the tyranny of an oppressing army. Additionally, Mettler (2005) discussed the American idealization of military service when she wrote, “Military service was recognized as the utmost obligation of masculine citizenship, and the protection of the nation by ordinary citizens, as opposed to a standing army, was considered essential to maintaining self-governance” (p. 347). Just like in ancient and medieval times when citizen-soldiers were granted benefits in terms of land allocations based upon their level of service, both U.S. service member veterans and active duty enjoy such benefits in terms of veteran pensions, healthcare, and financial incentives for career advancement from the U.S. government (‘Happy
Birthday G.I. Bill!”, 2019). The first clear linkage between the U.S. military and higher education can be seen in the adoption of the Morrill Land Act of 1862 that provided resources for academic institutions to train and fill depleted officer ranks in the military. This relationship between the military and higher education grew stronger in the nineteenth and twentieth centuries in America (Stern, 1957).

For many years, American soldiers from every branch have been deployed throughout the world. As of March 31, 2010, an estimated 2.3 million U.S. service members, including active duty, National Guard, Air National Guard, and reserves, were serving in various branches of the U.S. Military around the world, and, as of 2013, roughly 21.8 million of them successfully transitioned to their civilian life and duties (Tinoco, 2014). In addition to the large population of U.S. military active duty personnel and veterans, approximately 300,000 degree-seeking soldiers register and attend college courses either on a military base, off-base, or in distance education environment by using different forms of tuition assistance programs offered by the Department of Defense’s Voluntary Education Program (Office of the Deputy Assistant Secretary of Defense, 2014). Overall, about one percent of all current students enrolled in U.S. colleges are active service members, and approximately three percent of them are veterans (Radford & Weko, 2011). Since military students comprise an important segment of nontraditional learners in higher education in both face-to-face and distance education courses, it is important to look at this growing population of students in more detail.
**Growing Trends**

With rapid growth of online education programs in higher education institutions, there is increased concern over the retention of online, mostly nontraditional students, in such classroom modalities. Allen and Seaman (2009) reported that almost four million traditional and nontraditional students were enrolled in online courses in the United States. Recently, from fall 2016 to fall 2017, more than 350,000 students took at least one online course, which represented a 5.7 percent increase. Also, the proportion of all students in the United States who enrolled and participated in at least one online course in 2017 increased to 33.1 percent, from 31.1 percent recorded in 2016 (Ginder, Kelly-Reid, & Mann, 2019). For more details about all and online enrollments in public, private, and for-profit institutions (2016 and 2017), see Table 2-1 and Table 2-2 below for more details.

**Table 2-1. All Enrollments and Online Enrollments in 2016 and 2017**

<table>
<thead>
<tr>
<th></th>
<th>2016 Total</th>
<th>% of 2016</th>
<th>2017 Total</th>
<th>% of 2017</th>
<th>% Change, 2016-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>20,224,069</td>
<td>100%</td>
<td>20,135,159</td>
<td>100%</td>
<td>-0.44%</td>
</tr>
<tr>
<td>Enrolled Exclusively</td>
<td>2,974,836</td>
<td>14.71%</td>
<td>3,104,879</td>
<td>15.42%</td>
<td>4.19%</td>
</tr>
<tr>
<td>Online</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolled in Some</td>
<td>3,325,750</td>
<td>16.44%</td>
<td>3,552,581</td>
<td>17.64%</td>
<td>6.38%</td>
</tr>
<tr>
<td>Online Courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolled in No</td>
<td>13,923,483</td>
<td>68.85%</td>
<td>13,477,699</td>
<td>66.94%</td>
<td>-3.31%</td>
</tr>
<tr>
<td>Online Courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

43
Table 2-2. All Enrollments and Online Enrollments in Public, Private, and For-Profit Institutions in 2016 and 2017

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>% of 2016 Total</th>
<th>2017</th>
<th>% of 2017 Total</th>
<th>% Change, 2016 to 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Institutions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Students</td>
<td>14,692,988</td>
<td>100%</td>
<td>14,669,554</td>
<td>100%</td>
<td>-0.16%</td>
</tr>
<tr>
<td>Enrolled Exclusively Online</td>
<td>1,546,287</td>
<td>10.52%</td>
<td>1,657,959</td>
<td>11.30%</td>
<td>7.22%</td>
</tr>
<tr>
<td>Enrolled in Some Online Courses</td>
<td>2,830,891</td>
<td>19.27%</td>
<td>3,034,261</td>
<td>20.68%</td>
<td>7.18%</td>
</tr>
<tr>
<td>Enrolled in No Online Courses</td>
<td>10,315,810</td>
<td>70.21%</td>
<td>9,977,334</td>
<td>68.01%</td>
<td>-3.28%</td>
</tr>
<tr>
<td><strong>Private Nonprofit Institutions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Students</td>
<td>4,095,815</td>
<td>100%</td>
<td>4,123,164</td>
<td>100%</td>
<td>0.67%</td>
</tr>
<tr>
<td>Enrolled Exclusively Online</td>
<td>728,620</td>
<td>17.79%</td>
<td>788,439</td>
<td>19.12%</td>
<td>8.21%</td>
</tr>
<tr>
<td>Enrolled in Some Online Courses</td>
<td>368,508</td>
<td>9.00%</td>
<td>392,794</td>
<td>9.53%</td>
<td>6.59%</td>
</tr>
<tr>
<td>Enrolled in No Online Courses</td>
<td>2,998,687</td>
<td>73.21%</td>
<td>2,941,931</td>
<td>71.35%</td>
<td>-1.89%</td>
</tr>
<tr>
<td><strong>For-Profit Institution</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Students</td>
<td>1,435,266</td>
<td>100%</td>
<td>1,342,441</td>
<td>100%</td>
<td>-6.47%</td>
</tr>
<tr>
<td>Enrolled Exclusively Online</td>
<td>699,929</td>
<td>48.77%</td>
<td>658,481</td>
<td>49.05%</td>
<td>-5.92%</td>
</tr>
<tr>
<td>Enrolled in Some Online Courses</td>
<td>126,351</td>
<td>8.80%</td>
<td>125,526</td>
<td>9.35%</td>
<td>-0.65%</td>
</tr>
<tr>
<td>Enrolled in No Online Courses</td>
<td>608,986</td>
<td>42.43%</td>
<td>558,434</td>
<td>41.60%</td>
<td>-8.30%</td>
</tr>
</tbody>
</table>
Since its early growth, online academic institutions have primarily been serving adult learners, defined as students older than 24 years of age. This type of learner comprised almost 40% of all students in higher education in the early 2000s (Eduventures, 2008). However, educators reported course dropout, as well as failure rates among distance learners to be significantly higher than for traditional students who enroll in face-to-face course offerings at universities in the United States (Wojciechowski & Palmer, 2005). Nevertheless, for many military learners, online education is often the only medium that they can use to participate in college courses due to deployments, geographic limitations of military bases, or fulfillment of other primary roles, such as being a parent or having a full-time job.

The growing number of distance education programs and technological advances in communications have allowed U.S. soldiers to have Internet access in almost any remote region of the world, thus creating opportunities for learning in every locale (McMurray 2007). In the past, active deployments and geographical obstacles would make continued education quite impossible for these soldiers, who wanted to obtain academic degrees while serving their country. The Servicemen’s Readjustment Act of 1944, also informally known as the G.I. Bill, provided U.S. military soldiers with access to government-sponsored educational benefits, low-cost mortgages, and unemployment compensation, among other benefits (Gándara, 2012).

As mentioned previously, the original G.I. Bill enabled millions of U.S. service members to pursue a post-secondary education, attend college, and in many cases, successfully complete their academic degrees to use them in their civilian lives. From 1944 to 1956, approximately 7.8 million veterans actively participated in an education or training program under the benefits of the G.I. Bill. Later, the Montgomery G.I. Bill of 1984 further contributed to the proliferation of additional educational benefits for U.S. veterans by giving them opportunities to enroll in face-to-face and online education courses during their active deployments or after retiring from the
U.S. Armed Forces. In 2008, Congress passed the Post-9/11 G.I. Bill, which went into effect on August 1, 2009. Since then, more than $97 billion dollars in housing and educational benefits were provided to more than two million veterans and their dependents. And, at that same time period, approximately 400,000 U.S. service-member beneficiaries have completed their bachelor’s, two-year or non-college degree (“Happy Birthday G.I. Bill!”, 2019) The veteran’s participation rate in the G.I. Bill has been very high, ranging from 44 percent by the lowest socioeconomic background group of participants to 83 percent in the highest income group of U.S. Military soldiers (Mettler, 2005, p. 49).

Mettler (2005) looked more closely on how the G.I. Bill affected American society since its inception. He concluded that the G.I. Bill not only provided positive economic impact on U.S. service men and women as well as their families, but these citizens also became effective leaders in their states and spread democracy and stability in their respective communities. For instance, the original G.I. Bill helped create a robust middle class as well as democratized higher education in America (Zhang, 2018). Hence, the overall social impact of any iteration of the G.I. Bill goes beyond any college-related measurements or outcomes because it did not only allow veterans to obtain education, knowledge, and skills, but also the various iterations of the G.I. Bill helped them to have an important ‘transition point’ into civilian life. These important entry points between the military and civilian world helped the military learners to become more actively engaged citizens (Mettler, 2005).

Taking into consideration current realities of the U.S. military presence around the world in terms of various geographical locations, the role of distance education combined with the G.I. Bill program continues to be a major recruitment tool by offering educational opportunities to deployed or any new soldier joining a particular branch of the military. This is also related to an
emerging trend in increased demand for military distance education as related to state and federal funding for higher education initiatives. Moreover, in order to improve enlistment levels in their respective National Guard units, some U.S. states supplement the Montgomery G.I. Bill by fully waiving tuition costs for veterans and actively enlisted soldiers in the U.S. Armed Forces, Reserves, and the National Guard (Walters, 2006). For example, in 2006, six states introduced and passed legislation to provide full tuition coverage for active-duty, reserves, and the National Guard unit members of the military. These state-related educational benefits combined with federal tuition assistance of the G.I. Bill present unexpected benefits for many military learners regardless of their current status on a state or federal level (McMurray, 2007).

**Reasons for Enrollments**

Military learners enroll in college courses for various reasons, such as taking specialized classes to enhance their military or civilian careers or to work towards their academic degrees to prepare them for their current or future professional opportunities. Thanks to the recent development in technological advances of the Internet and the rise of online educational tools that render geography mostly irrelevant for teaching and learning, many U.S. military members take advantage of educational benefits and opportunities as presented by the Montgomery G.I. Bill of Rights and the Post-9/11 G.I. Bill that offered additional educational benefits to qualifying veterans, whose military service included at least 90 days of active duty since September 11, 2001 (McMurray, 2007; Ford & Vignare, 2014). In order to alleviate the financial strain on U.S. military students who pursue higher education degrees, the U.S. Congress passed the Post-9/11 G.I. Bill to offer additional educational benefits to the military population. Besides providing the same education benefits found in previous G.I. Bills, the Post-9/11 G.I. Bill also allowed veterans to transfer unused benefits to their immediate families. This law offered
colleges and universities an agreement with the federal government to pay tuition benefits to student-soldiers, who were not officially covered under the original G.I. Bill (Wilson, 2009). Thus, with the introduction of the Montgomery G.I. Bill and the Post-9/11 G.I. Bill, many U.S. veterans and their families were able to enroll in college-level courses and increase their opportunities for successful career transition in their civilian lives later. The U.S. Department of Veterans Affairs pointed out that since June 30, 2008, when the Post-9/11 G.I. Bill was passed, there have been approximately 1.1 million veteran beneficiaries that claimed educational benefits for variety of degree programs (National Veterans Foundation, 2015).

The Post-9/11 G.I. Bill has promoted growing interest in pursuing college degrees among active duty and military veterans (Ford & Vignare, 2014), who served in the U.S. military since 2001. All current branches of the U.S. Armed Forces have actively embraced distance education, partly due to the educational benefits offered by the U.S. government, such as the G.I. Bill and the Post-9/11 G.I. Bill, combined with boundless accessibility for student-soldiers. Furthermore, as Dortch (2017) pointed out, U.S. military branches use affordances of distance education as a recruitment tool to attract prospective soldiers and offer them opportunities for continued education and professional development. Also, a growing number of academic institutions in the U.S. have adapted to meet the needs of military learners in both face-to-face and distance education environment, including the provision of affordable and convenient online course formats and student support services (Ford & Vignare, 2014).

Lastly, for-profit institutions and their online course offerings have provided choices for student-soldiers to pursue their academic endeavors (Giroux, 2013). These institutions are known to be military-friendly by heavily marketing their educational services to military learners on various campuses, offering evening classes to fit their busy schedules, and providing specialized
academic programs that closely relate to various post-military career paths. Thus, an interesting trend has emerged where the for-profit institutions, such as the University of Phoenix, enter into agreements with the U.S. Department of Defense (DoD) in order to have exclusive access to military bases and offer both on-base and online degree programs to prospective students (2013). This way, U.S. veterans have access to educational opportunities via multiple channels of academic providers and are supported by U.S. government funding. According to the U.S. Department of Veterans Affairs (VA), the number of VA Education Program beneficiaries expanded from 397,589 in 2000 to 923,836 in 2011 (2013). This trend is encouraging, but the retention data of military learners also show that most of these soldier-to-student transitions end in failure. While many student veterans are taking advantage of these educational opportunities, a high percentage of them do not successfully complete their coursework. Persistence and retention in college courses can be an issue for all students, but it seems to be more so for veterans. The next section will look more closely at retention characteristics of military learners.

Retention in Face-to-Face and Online Courses

Since the late 1800s, student persistence and course or program retention has been part of higher education research in the United States (Thelin, 2004). Recognized studies on student persistence in courses started to appear in the late 1920s (Braxton, 2000). In the 1970s, many prominent researchers, such as Tinto (1975, 1993), Pascarella (1985), and Astin (1993) completed their influential studies regarding what factors contribute to overall student retention in post-secondary institutions in the United States. Well-established research has already been done to better understand student persistence in traditional brick-and-mortar environment. On the other hand, relatively little has been published about retention of students at distance education institutions that have grown since the late 1980s in the United States. Common variables found
in such face-to-face environments, such as physical access to an instructor or other student peers and receiving immediate feedback in a classroom environment, are often not present in online programs or they demonstrate themselves in significantly different ways (Boston & Ice, 2011).

Overall college retention rates in the United States have not significantly changed during the past 25 years based on the National Center for Education Statistics (Jaschik, 2010). According to the U.S. Department of Veteran Affairs (2013), it is estimated that nearly 325,000 active and inactive (retired) student veterans will take advantage of the Post 9/11 G.I. Bill and its educational benefits to enroll in at least two or more college courses in both physical and virtual learning environments. While the student attrition rates for face-to-face courses are approximately 13%-15% for undergraduate learners, the non-persistence rates among first-time online students in postsecondary education are about 28% to 32% nationally (Allen and Seaman, 2013).

**Military Student Retention**

Student retention is an important measure of success among various academic institutions to make sure their academic programs offer environments where learners’ experiences are positive to persist from one semester to another in order to successfully graduate either by taking face-to-face, hybrid, or online courses. Distance education is often desired by sailors, soldiers, airmen as well as veterans who want to further enhance their professional careers. They are attracted to institutions that offer distance education courses due to the flexibility and affordability of these types of course modalities during their busy lives (Allen & Seaman, 2010). An analysis completed by the U.S. Senate Committee on Health, Education and Labor and Pensions pointed out that approximately 88 percent of veterans enrolled in college programs drop out during their first academic year, and only three percent of military learners
graduate (United States. Congress. Senate. Committee on Health, Labor, & Pensions, 2012). Additionally, Sorey and Duggan (2008) reported that on physical and virtual campuses, student veterans often lag behind traditional students in regard to academic and social competencies. It seems that for many military learners, as a subgroup of nontraditional student population, it might be challenging to adjust to more of a traditional campus environment.

Thus, as Radford (2011) argued, it is imperative to focus on the experiences and educational outcomes for student veterans and active duty military students in terms of their adaptation to academic life, as it has a strong impact on overall persistence rates in colleges and universities across the nation.

For many military learners, the transition and context of higher education and academia from their established military environment can be challenging. Some view themselves in this transition as a “frustrated participant in unresponsive institutional context” (Bowl, 2001, p. 141). Oftentimes, military students feel that their primary identity is not necessarily of a student during this transition to academic environment. Even after retirement, their primary identity is oftentimes still related to their military combat roles as well as fulfilling the responsibilities as a parent or a full-time employee rather than being perceived as a student, which can be considered a secondary role. Literature (Jenner, 2017) points to the fact that military learners, as a subset of nontraditional students, relate closely to first-generation and under-represented minority (URM) groups of students. Jenner (2017) found:

- Many student veterans, like other nontraditional and first-generation learners, are more likely to have various family obligations that could interfere with their academic responsibilities. Thus, the clash of primary and secondary roles might create an internal
conflict for such non-traditional learners (military students), which could potentially lead to increased academic attrition among these students in the long run (p. 9).

- Many military learners are also members of under-represented ethnic groups of students. And, just like URM students, they do not often transition directly from their military culture to the academic environment. In many cases, this transition is also affected by the student’s connection to their home culture after completing his or her military career. Therefore, a “culture clash” could occur for these types of learners, and could affect their overall social integration and sense of connectedness while attending school in various course modalities (p. 9).

- There is a difference between military culture and campus culture, such as hierarchical structures, perceptions of authority, sense of time and punctuality as well as societal discourse, which could affect military students in terms of a culture shock between these two distinct environments (p. 10).

When military learners are exposed to online learning, they might perceive that others in their online environment do not fully understand their challenges as student veterans, resulting in higher non-persistence rates in such online programs (Stringer, 2011). As the military student population grows in higher education, it is imperative to understand this unique subgroup of adult, nontraditional learners because of their potentially different perceptions of the academic world compared to traditional students. Moreover, institutions might better understand the needs of under-represented student groups, such as minority groups and first-time college students, who often share similar traits and characteristics with their military learner counterparts.

Most of the current research related to military learner outcomes and persistence proposed that military learners often adapt in their academic environment by using their
embodied cultural and social capital that they previously acquired from the military training, including reliance on fellow military learners as successful persistence strategies throughout their academic lives (Ford & Vignare, 2015). Based on O’Rourke’s research, military learner intent to persist in college courses was primarily influenced by satisfaction with the entire education experience, stress level, duty status, ease of registration, and perception that the learner’s efforts were valued by the student’s military unit (active duty) or other learners participating in the same class (O’Rourke, 2013).

**Low Retention Impacts**

As part of the student achievement initiative, educational administrators critically evaluate student retention not only in terms of student success, but also for the overall improvement of matriculation rates of students in such institutions of higher education. Higher education institutions are also under close scrutiny by legislative bodies and state and federal governments to improve overall program outcomes, including completion rates. Therefore, it is important for institutions to maintain high persistence rates in their distance education courses in order to secure funding for long-term strategy and survival (Allen & Seaman, 2008). By offering distance education courses tailored to the needs of nontraditional students, academic institutions might attract more military learners who often cite high levels of bureaucracy regarding admission, enrollment, and registration issues, as well as difficulty adjusting to student life as independent learners as barriers (DiRamio, Ackerman, & Mitchell, 2008; Steele, Salcedo, & Coley, 2010). Bunting (2013) reported in his study that military learners often prefer to complete their college degree entirely online due to course flexibility that allowed them to effectively manage their time between school, work, and family responsibilities. The students also reported that online courses were cancelled less frequently than face-to-face courses. Since we know that
persistence can be an issue in military student distance education, what theories or models might help us better understand the phenomenon and provide insights into solutions? The next section summarizes theories that analyze factors affecting retention of nontraditional students in college courses.

**Theoretical Frameworks**

It is important to describe a few specific theoretical frameworks that encompass input, environmental and output variables in order to understand the overall process of learners participating and ultimately completing or non-persisting in their academic courses. Military students often transition from the highly structured and regimented culture of the military environment to the more self-managed and self-regulated environment of higher education. According to Schlossberg (1984), learners generally experienced significant transitions in their lives when their current roles, relationships, and beliefs are challenged.

Earlier research also pointed to academic, social, and financial factors that were identified as important indicators for traditional students to persist and succeed academically in college courses (Thomas, Cassady, & Heller, 2017; Tinto, 1975, 1987). For nontraditional students, social support and integration were important indicators of student persistence for veterans and their dependents in previous studies that were mostly qualitative in nature, and therefore, they emphasized the significance of connection relationships when a military learner transitioned from the military environment into higher education system (Ackerman, DiRamio, & Mitchell, 2009; Cook & Kim, 2009; DiRamio & Jarvis, 2011; Grimes, Meehan, Miller, Mills, Ward, & Wilkinson, 2011). Additionally, studies highlighted the importance of mentoring and social connections in college settings to support retention of nontraditional students in college courses (Barnett, 2011; Barnett, 2014).
Let us now look at a few specific theories and persistence/attrition models, namely Strayhorn’s Sense of Belonging Theory, Schlossberg’s Transition Theory, Tinto’s Student Integration Model as well as Bean and Metzner’s Adult Learner Persistence Model, in more detail in the following paragraphs.

**Strayhorn’s Sense of Belonging Theory**

The premise of Strayhorn’s Sense of Belonging Theory (2012) is the importance of student belonging with peers, whether it be in a classroom setting or on campus (Strayhorn, 2012). This, according to Strayhorn, is an important part of the student’s overall college experience. Experiencing an environment where a person feels connected to other members of the community and shares similar values and beliefs is an important foundation of this theory. It is also argued that a sense of belonging affects the learner’s degree of academic achievement as well as his or her persistence in a classroom or in the entire academic degree program (2012).

**Schlossberg’s Transition Theory**

In her seminal work, Schlossberg (1984) focused on how transitions, either classified as an event or non-event, affect relationships, routines, and roles among individuals. Perception also had a key role in understanding how particular transitions influence people and what personal meaning is attached to such events or non-events. There are four specific factors (4 S’s) as identified by Schlossberg that effect a person’s ability to handle a challenging transition: situation, self, support, and strategy. For the military students, this can be a transition from their military environments into the world of higher education, and in terms of the ‘situation’ factor, the results of this research study revealed that effective communication between military learners and instructors in a classroom setting plays an important role in establishing academic environment that fosters persistence and academic performance in this group of nontraditional...
students. Regarding the factor of “self,” this research highlighted a difference of cultural perspectives that student veterans have about online and hybrid course modalities, and what their personal preferences are to succeed academically and complete “the mission.” In terms of “support” as the third factor of Schlossberg’s Transition Theory (1984), the social bond is important for military learners in order to effectively transition into their learner roles. Thus, sense of connectedness was important for the students in this research study as this construct was statistically significant in terms of predicting the academic performance (grade) among the military students in online courses. Lastly, strategy is related to how learning institutions provide aid in the overall transition process by a student-veteran to successfully complete his or her academic journey, which was not the scope of this research study.

**Tinto’s Student Integration Model**

Tinto’s Original Student Integration Model (1975) is widely considered to be one of the most highly respected models of student retention based on understanding of student behavior and unique characteristics of each learner. The model argued that a decision to drop out by a learner is mainly fueled by a combination of pre-entry attributes of student characteristics, such as family background, and the magnitude of the student’s academic and social integration in an academic institution. Thus, we can reason that feeling ‘integrated’ in any classroom environment, such as online or hybrid, might positively affect student persistence, not only from class to class, but also helping them complete the entire academic program (Tinto, 1975).

One of the most cited models of college student persistence is Tinto’s Student Integration Model (See Figure 2-1 below) that emphasized the student’s ability to become involved in his or her institution (Tinto, 1985). Tinto’s Model highlights the importance of academic and social integration as two important factors of student persistence. Combined with external variables of
individual and family attributes that shapes a student’s environment, Tinto suggested that this can lead to lower overall dropout decisions by learners while they strive to progress in their studies (Tinto, 1985).

![Student Integration Model](image)

**Figure 2-1.** Student Integration Model: A longitudinal model of institutional departure (Tinto, 1993, p. 114)

Consequently, in his revised model (1993), the formal academic system (such as interactions with faculty) as well as the informal social system (peer group interactions) play even more prominent roles in the overall institutional experiences of a learner, culminating into academic and social integration or isolation, with the latter affecting the learner’s overall departure decision (Tinto, 1993). Furthermore, Tinto’s 1993 revised student persistence model also included non-traditional students, and based on his own literature review, Tinto determined that most nontraditional students value the importance of social integration, such as faculty contacts, on-campus student groups, and academic support services (Tinto, 1993). Due to these
revisions, Tinto’s model is more applicable to the current trends of nontraditional student attrition in higher education in the United States.

Tinto’s Model of Student Persistence (1993) focused mainly on academic and social integration of a student with prior qualifications in an institutional setting. For example, Hagedorn (2010) argued that the Tinto model highlights the need for a successful match between the academic environment and individual student commitment to effectively persist in the college and complete a degree plan. Tinto originally focused on the traditional aged group of students, and how academic, social as well as institutional integration affects their overall persistence rates in various institutions. Braxton (2000) analyzed approximately 225 empirical validation studies related to Tinto’s model and discovered only modest validations.

There are, however, some critiques of Tinto’s framework, such as Attinasi (1989), Cabrera, Castaneda, Nora, and Hengstler (1992), Harper, Smith, and Davis III (2018), Museus and Quaye (2009), and Rendón, Jalomo, and Nora (2000), who primarily argued that his student integration model relies heavily on a limited and mostly homogenous population of students, and it does not consider specific characteristics of non-traditional learners, such as military students, first-time college learners or under-represented minorities on campuses. It primarily emphasizes the importance of prevailing community of students on campus, to which other nontraditional students might not feel socially connected or not having a strong sense of community. Furthermore, it also excludes some other attrition factors in the model, such as the organizational factors (Aljohani, 2016), including, but not limited to the role of academic institutions in student transition from family, military or high environment to academic campus. Lastly, in 1982, Tinto himself was quoted to criticize his own 1975 persistence model as being inadequate in helping to distinguish between a student’s decision to transfer or withdraw completely from an academic
institution. He said: “It does not adequately distinguish between those behaviors that lead to institutional transfer and those that result in permanent withdrawal from higher education” (Tinto, 1982, p. 689).

**Bean and Metzner’s Model**

Built on Tinto’s Student Integration Model, Bean and Metzner’s (1985) Adult Student Persistence Model (See Figure 2-2 below) specifically focused on the non-persistence rates among non-traditional, commuter-type students, and found social integration to be an important factor. Bean and Metzner described social integration as:

> The degree of students’ participation in extracurricular activities, peer friendships on campus…; students’ evaluation of the quality of these experiences, such as the amount of satisfaction with the relationship; and a global assessment of student satisfaction with their social life or with the social opportunities at their college. (Bean & Metzner 1985, p. 509)

The researchers argued that non-traditional students were often affected by the external, rather than the internal (on-campus), environment of an institution, and they needed to balance more roles and responsibilities in their lives than traditional students (Lynch & Chickering, 1984). The main difference between the two presented models is the emphasis that Bean and Metzner placed on external factors as well as the student’s own intention to persist rather than examining the role of the institution and its support services to lower attrition rates as emphasized in Tinto’s model of student persistence. Both models identify social integration as a factor that can impact persistence.
Figure 2-2. Bean and Metzner’s Adult Student Persistence Model

General support for active-duty personnel, veterans and their families became one of the most important topics of recent research in regard to this type of nontraditional learner group (Mentzer, Black, & Spohn, 2015). Three main elements of academic, financial, and social supports emerged from the latest research to be important predictors of military student persistence in higher education environment today (Ford & Vignare, 2014). This research focused on the social support elements, namely social integration and sense of connectedness, to explore their influence on persistence rates and academic performance among military students in online and hybrid courses.
Military Training, Teamwork, Social Integration, and Sense of Connectedness

Group cohesiveness and group identity are essential components of basic military training that each U.S. soldier experiences in order to appreciate sense of teamwork, increased performance, and, most importantly to support mission motivation that “we’re-all-in-this-together” (Siebold, 2006, p. 186). Group cohesiveness contributes to overall unit integrity among soldiers, which is critical in the overall survival process (Siebold, 2007). Moore (2013) conducted a study that utilized group dynamics, social cohesion, and team-support exercises among student veterans who enrolled in face-to-face undergraduate courses. The findings revealed that most students felt more engaged and more trustworthy when assigned to a team to solve an in-class project. Higher levels of overall student satisfaction were reported among students participating in cohort-style academic assignments. Building strong relationships within a student group is paramount to effective learning, and the military has been using this concept of group cohesiveness for a long time (Siebold, 2007). For instance, the ledger of Medal of Honor recipient brochure describes the sacrifices many men have given to save the lives of their peers.

In a study conducted by Cate (2011), a sense of academic and social validation among military learners was one of main indicators of the learner’s perception regarding the “institutional fit”, or maybe not at all, and a sense of belonging among other students. A majority of military learners expressed anger, resentment, and overall frustration regarding their traditional student counterparts by describing them as rude, immature, and materialistic (Ford & Vignare, 2014). Additionally, a number of retired military learners reported a sense of isolation during their academic studies and grieved the loss of the friendships among their peers that they experienced in the military (Bauman, 2009; Beatty, 2013; Carne, 2011).
Despite the accelerated growth of distance education courses, many higher education institutions have been affected and concerned by high attrition rates of nontraditional learners, such as military learners or corporate adult learners (Park & Choi, 2009). Previous studies suggested that a mix of internal and external factors contributes to the decision of adult learners to persist or non-persist in online courses (Harrell & Bower, 2011; Hart, 2012; Park & Choi, 2009). Park (2007) completed a review of previous studies, and based on Rovai’s model for understanding adult learners, he proposed a framework that consists of both external and internal factors that influence persistence of these types of students prior to and during the course of study (See Figure 2-3 below for more details).

**Figure 2-3.** Theoretical Framework for Adult Dropout in Online Learning (Park, 2007)

To better understand the effects of these types of factors, colleges and universities have been implementing various support programs in their online course offerings to assist adult learners to persist in their academic courses. The reviewed literature provided four main strategies to reduce attrition in online course environments: student integration, learner centered...
approaches, learning communities, and finally, availability of online student services (Annand, 2011; Archibald, 2010; Oztok & Brett, 2011). It is known that distance learners have to overcome various challenges, such as physical separation, feeling of isolation, lack of support, and feeling disconnected. Therefore, formal and informal learning communities can help (Angelino, Williams, & Natvig, 2007). Some institutions started to create cohort-based online curriculum to improve the completion rates among adult learners participating in professional development courses while other universities started to focus their attention on endeavors to create a positive learning atmosphere to enhance the students’ sense of belonging (Liu & Lu, 2011, Russell, Kleiman, Carey, & Douglas, 2009).

Social Integration

Social integration has been a key variable in various types of studies on student persistence (Ishitani, 2016 & Jaschik, 2010). Tinto (1993) and Bean and Metzner (1985), however, argued that external factors are more important to individual student decisions to persist in face-to-face courses rather than the social factors, even though they acknowledged that social integration has an important role depending on the pedagogical and environmental factors in colleges and universities. Social integration and cohesiveness among traditional students were central in both Tinto’s (1975) and Spady’s (1970) student retention models. They both reported from their studies the greater influence of social integration on higher levels of persistence among traditional students (Tinto, 1993; Spady, 1970). Bean and Metzner (1985) defined social integration as “the quality of the social interactions within the educational environment for the student, to include extracurricular activities and satisfaction with peer interactions and support” (p. 507). Social integration is also a factor in military training central to building group cohesion
or teams (O’Rourke, 2013). A better understanding of social integration in military training might inform thinking about its importance in distance education for military personnel.

**Online Community Scales**

By examining the existing theories, it is important to know how to measure student persistence in distance education by looking at student engagement, satisfaction, as well as student integration, among other external and internal factors influencing student attrition rates. Some of the most frequently used survey instruments found in the literature that were developed to measure student engagement, persistence, and social integration in academic settings are depicted in Table 2-3 below:

**Table 2-3. Summary of Existing Online Community Scales (Hung, 2013)**

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Scale Name</th>
<th>Factors/Components</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rovai</td>
<td>Classroom Community Scale</td>
<td>Connectedness, Learning</td>
<td>Validity called into question by Barnard-Brak and Shiu (2010).</td>
</tr>
<tr>
<td>(2002a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lin (2004)</strong></td>
<td>Social Presence Questionnaire of Online Collaborative Learning</td>
<td>Perception of the Assistance of Group Activity to Learning, Social Comfort of Expressing and Sensing Affect, Social Navigation</td>
<td>The sample size for the factor analysis was only 15. Factor loadings not displayed for other factors.</td>
</tr>
<tr>
<td><strong>Randolph &amp; Kangas (2008)</strong></td>
<td>Sense of Community Survey: Version 1</td>
<td>Instructor Interactivity, Pleasantness and Fairness, Teacher Stage and Learner Style, Small Group Activities</td>
<td>Factor analysis only conducted on 33 cases.</td>
</tr>
<tr>
<td><strong>Bolliger &amp; Inan (2012)</strong></td>
<td>Online Student Connectedness Survey</td>
<td>Comfort, Community, Facilitation, Interaction and Collaboration</td>
<td></td>
</tr>
<tr>
<td><strong>Young &amp; Bruce (2011)</strong></td>
<td>Online Community and Engagement Scale</td>
<td>Community Building with Instructor, Community Building with Classmates, Engagement with Learning</td>
<td></td>
</tr>
</tbody>
</table>

The survey tools listed in Table 2-3 were validated and provide reliable measures of student connectedness and persistence in online courses. The use of these surveys might help academic institutions obtain feedback from students to foster improved social integration in online course environments.
**Sense of Connectedness**

While self-discipline and personal motivation are essential and important attributes of successful adult learners in online and hybrid course environments, they do not necessarily ensure persistence and course completion by students enrolled in these types of environments. For this to happen, learners have to see themselves as members of a community with other fellow students and faculty who appreciate their unique value and make them feel that they matter and belong in those particular learning environments (Drouin, 2008). This was precisely what the term “sense of connectedness” represents in the context of this research. It is when specific commitments and engagements with other students start to arise in a classroom setting that these learners often feel a sense of connectedness to a community and value such engagements with others, especially during challenging times, such as staying engaged in a course or organizing and prioritizing the demands of rigorous curriculum. Such opportunities of individual students perceiving themselves as ‘belonging’ or being ‘connected’ with other students and instructors in a classroom setting allow them to more likely persist in a course due to not only increased motivation, but also in willingness to engage with other learners, thus, fostering meaningful relationships during the course of the semester or entire academic program. On the other hand, if a student does not feel connected with peers in a course, this could eventually lead to low motivation to persist or even result in a complete withdrawal from sharing experiences with other students, thus further damaging the student’s motivation to persist later in the course. One could argue that it is therefore the responsibility of instructors to create welcoming and supportive classroom environments, such as learning communities, to foster such “sense of connectedness” among students in online and hybrid courses. Furthermore, some academic institutions started to provide social and collaborative events, such as student orientations, to create and strengthen social bonds among students, especially during initial
stages of their academic journey. In summary, sense of connectedness plays an important role in designing courses where students feel as equal partners to learn together and feel safe to share diverse experiences together, which in turn promotes student development, learning, and completion (Tinto, 2016).

**Online and Hybrid-Based Programs**

There are a variety of forms of online learning from completely online to mostly face-to-face with some online activities (Allen & Seaman, 2013). The first form of distance education programs are online courses that utilize Internet-based educational tools in order to deliver the entire course content on the Internet to students around the world. Some of the advantages of online courses are convenience and flexibility by being an independent learner, who is not tied to time or space, material review that allows constant access to class lecture recordings or exercises, and lastly, automated data gathering for class analytics and assessment to help improve academic institutional outcomes. Some of the drawbacks of online courses include: students having technical issues, limited community engagement in online setting, and inadequate student support to help students use technology effectively in distance education settings (Young, 2013).

Another form of distance courses is referred to as hybrid. Garrison and Vaughn (2008) described it as:

Hybrid learning combines the properties and possibilities of both face-to-face classrooms and online learning to go beyond the capabilities of each separately. It recognizes the strengths of integrating verbal and text-based communication, and creates a unique fusion of synchronous and asynchronous, direct and mediated modes of communication in that the proportion of face-to-face and online learning activities may vary considerably. (p. 6)
A simple way to understand a hybrid course is to view it as a method of delivering course content in which there is a combination of face-to-face and virtual contact between students and instructors (Dawson, 2010). On one side, hybrid courses may have the potential to enhance social integration among military students in online courses. On the other side, handling the dual nature of the academic environment that hybrid courses are comprised of can be time-consuming and require more effort from the faculty to deliver quality course content in both online and face-to-face teaching modalities (Young, 2013).

Students’ educational and academic goals have significant roles in the retention process based on Tinto’s (1987) original research about student attrition rates. Tinto also argued that the integration of social and academic experiences could, in fact, contribute to much lower attrition rates among first-year students in an institution that matches students’ “intellectual orientation” in terms of academic degrees, faculty and student interactions, and peer support. Tinto emphasized the following four benefits for students who engage in various types of student-based groups, such as on-campus learning communities: extension of student’s support network, increased student participation in learning, increased student engagement in on-campus activities and their own educational experience, and enhanced quality of student learning (Tinto, 1987, 1993).

From prior research, it is evident that various institutions have already taken advantage of the “natural bond” that exists amongst veterans to increase overall student retention and graduation rates. One example is the Supportive Education for Returning Veteran (SERV) program at Cleveland State University in Ohio. In this program, there were higher grade point average (GPA) results among cohort-based students as well as the increased retention rates compared to their non-veteran counterparts (Shupp, 2010).
Lastly, other research points to the importance of student veterans being “mission-driven individuals,” and their transition to less structured academic environments without any group identification and social cohesion can negatively affect their overall performance as a student in the classroom, thus lowering persistence rates. (Rumann, 2010). Knowles, Swanson, and Holton (2011) argued that non-traditional students often look for opportunities to enhance their active learning, such as belonging to a study group or social club on-and off-campus, primarily because they are internally driven and problem-centered experiential learners.

**Summary**

Current research has identified the social and academic difficulties of student veterans in today’s academic environments when transitioning into college from their military service. More research is needed to examine how social integration contributes to persistence rates of student veterans in online, hybrid, as well as other types of courses.

After examining the overall literature about persistence among student veterans, there seemed to be no best model to properly identify why non-traditional students often do not persist in their academic endeavors. Tinto’s theory is cited the most often at 812 citations, followed by Bean and Metzner’s Adult Student Persistence Model (Braxton, Hirschy & McClendon, 2004). One of the most revealing observations by Bean and Metzner was the notion that creating specific models for attrition rates among non-traditional students is challenging due to complex characteristics of the population under study (Metzner & Bean, 1987).

However, it is worth exploring the effects of social integration among student veterans in distance education to better understand their role and significance in student intent to persist or not in their academic programs. Hills’ (2010) research study confirmed that students who were isolated from academic resources, peer support groups, and informal interactions with other
students were less likely to stay enrolled in the college courses. Even though Tinto’s model may not be suitable to study non-traditional students, Bean and Metzner’s model effectively combined both internal and external factors to have a holistic approach in examining rising evidence that student veterans must be actively engaged in both physical and virtual classrooms, and feel the support from their peers and institutions in their academic endeavors to successfully persist in their classes.

In summary, faculty-student interactions, peer-to-peer relationships, and engagement (all aspects of social integration and sense of connectedness) seem to be prevailing factors that encourage student persistence in higher education environments (Whitt, Edison, Pascarella & Terenzini, 2001; Ishitani & Desjardins, 2002). Hence, more research is needed to properly understand military learner persistence in distance education environment since the benefits of online courses are compelling to this type of nontraditional students. Yet, the research in this area is quite limited. Adaptation of some of the student persistence models reviewed in this literature review might further advance research about factors influencing persistence in online and hybrid courses among nontraditional students, such as the military learners.
CHAPTER 3. METHODOLOGY

The purpose of this quantitative research study was to examine how online and hybrid courses for military students affect social integration, sense of connectedness, and overall retention rates and academic performance among this group of learners. The focus of this study was upon military undergraduate students because they are expected to be the largest group of new enrollees using G.I. Bill benefits (Wilson, 2009). A quantitative research design was selected for this research.

There were six main research questions for this study:

RQ1: Are there differences in course persistence rates among military students enrolled in online and hybrid courses?

RQ2: Are there differences in measures of social integration based on Bean and Metzner’s student persistence model among military students enrolled in online and hybrid courses?

RQ3: Are there differences in feeling a sense of connectedness among military students enrolled in online and hybrid courses?

RQ4: Are there differences in academic performance among military students enrolled in online and hybrid courses?

RQ5: What is the relationship between social integration and sense of connectedness and course persistence and academic performance among military students enrolled in online and hybrid courses?

RQ6: How well does level of social integration and strength of sense of connectedness predict persistence and academic performance in online and hybrid courses?
Research Design

This study utilized a non-experimental causal-comparative and correlational research design to examine the relationship between independent (course delivery format) and dependent variables (social integration, sense of connectedness, course persistence, and academic performance).

This research study used two quantitative approaches:

1. Correlational research: Gall, Gall, and Borg (2007) characterized correlational research as “studies in which the purpose is to discover relationships between variables through the use of correlational statistics” (pp. 189-190). One of the advantages of this type of study is that a large quantity of variables can be examined in a single study as well as provide data about the degree of the relationship of the variables that are being studied. The relationship between social integration, sense of connectedness, and persistence and academic performance were examined.

2. Comparative research: McMillan (2009) pointed out that this type of study helps researchers to “compare two or more groups on a single variable” (p. 181). For this study, causal-comparative research, also known as “ex-post facto,” will attempt to determine the differences between groups of military students in two different classroom modalities. Hence, fully online and hybrid-based courses were compared in this study.
Conceptual Framework

Bean and Metzner’s Adult Student Persistence Model (1985) was used as theoretical base for the conceptual framework of this research study because social integration is one of its main components. The Adult Persistence Model was originally derived from Tinto’s revised Model of Student Persistence with its focus on academic aspects of student persistence in mostly traditional education settings (Tinto, 1982, 1993). In this research study, the conceptual framework incorporates online and hybrid course modalities and their influence on course persistence rates and academic performance among military learners.

Participants and Context

Participants

Military students, including active duty and veterans were the participant population for this research study. This group of adult learners was enrolled in both online and hybrid courses at a large non-profit private university in Hawai`i. This institution currently offers approximately 120 online and 40 hybrid courses in eight associate and 11 undergraduate degrees. The sample for this study was taken from the available population of students estimated at 685 actively registered learners, who were classified as non-traditional military students using their G.I. Bill educational benefits at this local institution. The selected academic institution offers a variety of programs for military students to choose from, such as traditional 16-week semesters or accelerated 8-week semesters with the combination of face-to-face, online, and hybrid courses from which to choose. These course type offerings and their associated semester timelines are available to the military students in order to fit their busy lifestyle as well as help them fulfill other important commitments that these learners have besides attending college, such as taking care of their families or having a full-time job. Online courses only incorporate asynchronous
mode of lecturing and communication with students. Hybrid courses require at least 30 percent of student work to be done online in addition to attending the class in face-to-face format. Also, the online and hybrid courses in the 8-week format require at least 32 contact hours of study as mandated by the university.

Military student participants, who were enrolled in the 8-week online or hybrid courses, were invited to participate in this particular research study. The military status of the participants was verified by the office of military campus programs based on the student’s e-mail address credentials collected during the survey administration.

**Study Setting**

A large private non-profit university in Hawai`i was the setting for this academic research study. This institution offers face-to-face, hybrid and online courses to over 8,500+ students of diverse characteristics from Hawai`i, U.S. mainland, and 93 countries around the world. It is fully accredited by the Western Association of Schools and Colleges (WASC). It has one of the largest military college programs available to the adult learners in four local military campuses across the military bases in Hawai`i as well as an online program to reach military students on the U.S. mainland and overseas. The university has been offering online education courses since 1993. In 2015, the university was awarded the designation of a Top School in the 2015 Military Advanced Education (MAE) Guide to Colleges and Universities.

**Instrumentation and Procedures**

Measures were collected for the key variables identified for this study. The social integration variable was measured by using three subscales found in the Institutional Integration Scale used in previous research studies by French and Oakes (2004), Pascarella and Terenzini (1980) and Tinto (1975, 1993, 1997). The three subscales with their corresponding internal
validity values used for this study to measure social integration were peer group interactions (0.84), interaction with faculty (0.89), and student development by faculty (0.88). Furthermore, the validity across two samples was done for this survey instrument. The Institution Integration Scale was originally created by Pascarella and Terenzini in 1980.

The sense of connectedness was measured using the Online Student Connectedness Survey (OSCS) developed by Bolliger and Inan (2012) (see Appendix A). The survey instrument used in this study had already been validated in previous research studies. Validity was further confirmed by examining reliability findings validated in other studies. The instrument incorporated 25 items and had four subscales: comfort, connectedness (community), facilitation (community), and interaction and collaboration. The factors and the subscales were confirmed by a factor analysis. High reliability coefficients for the instrument and the subscales also verified the internal consistency, reliability, and validity of the OSCS survey. The instrument (Online Student Connectedness Survey) reliability was found to be high (a = .98). The instrument was used in other studies (Cha, Kim, and Erlen, 2007; Ford and Inan, 2013; Jamison and Bolliger, 2019; Walker and Fraser, 2005). The research participants selected from Likert-scale type responses when answering the survey questions.

Persistence rates of undergraduate military students were determined from institutional student data showing course completion and continuing enrollment. Academic performance was measured using final course grades obtained from the institutional grade system.

The data were collected as confidential information using a survey instrument that was distributed to courses offered in both online (2) and hybrid (2) modalities during two consecutive 8-week semesters. Students were asked to voluntarily participate and complete a survey that was sent out via the university’s learning management system (LMS) where all courses are usually administered and accessed by enrolled students. The survey measuring social integration and
connectedness was distributed in the fourth week of the class and persistence measured at the end of the course in terms of class completion and enrollment in the subsequent semester. The fourth week was selected in this study to send out the survey links because the local institution reported in the past that some military learners usually drop out within the first four weeks from their registered course for many reasons, including obtaining their G.I. Bill refund that can later be used to register for other courses in the future.

Furthermore, possible deployment of military students was also originally considered as potential issue affecting survey participation and course persistence. Fortunately, no active deployments lasting more than eight weeks were reported by the office of military campus programs for the classes where the survey was sent out and data collected during those two consecutive semesters.

Lastly, the survey data was stored in the assessment section of the LMS system, which is managed by the university’s Office of Institutional Research. Survey data were retrieved by the structured query language (SQL) computer program, which was also used to import the data into Microsoft (MS) Excel for further data analysis. The imported information was later analyzed, and the results were interpreted by using the Statistical Package for the Social Sciences (SPSS) (IBM) statistical analysis software.

**Protection of Human Subjects**

The researcher provided all details about this academic study to the University of Hawaiʻi’s Institutional Review Board (IRB) that oversees the protection of human subjects related to all research. This was done to make sure that all ethical research standards were met and fulfilled according to the IRB guidelines. All students enrolled in the selected courses were sent a consent form (see Appendix B) through the course LMS at the end of the fourth week of
class asking for their voluntary participation in the study. By selecting the link to the survey within the form and completing the survey, they consented to participation. A letter of commitment was also provided by the participating institution to conduct this study (see Appendix C).

**Data Collection**

Prior to data collection, the research protocol was submitted to IRB for approval at the participating institution. Data for this study was collected by using a survey instrument distributed via the university’s LMS system to the military student population enrolled in the selected online and hybrid courses during the two 8-week consecutive semesters. Students were asked to voluntarily complete the survey that was accessible on the LMS home page, and to submit their responses via survey form powered by Google Forms. Jaschik (2010) emphasized that online surveys provide many advantages, including low cost, quick distribution, and higher response rate on average. Some of the disadvantages include overall security of data collected by an online survey in a digital format, differences in understanding and interpretation of survey questions by participants, or it can be sometimes hard for respondents to convey feelings and emotions in a survey.

The participant’s completed responses were stored in the LMS survey assessment module, which the researcher later accessed to extract and import the survey data responses into data analysis software for further examination. The collected data was considered confidential since data mapping of student names, their course completion, and their final grades were “mapped” to their student identification number (ID) to know which students completed the course and what their final grades were. Once the data were matched (survey responses, course
grade, course completion, and continuing enrollment), all identifying information was removed from the final data set prior to analysis.

Lastly, in order to gain deeper understanding of military learners in this research study, I interviewed seven military students, who volunteered their time to be a part of a follow-up focus group for some additional understanding of military student experiences in online and hybrid courses. Four students from hybrid courses and three students from online courses shared with me their experiences related to social integration and sense of connectedness during the semester.

**Data Analyses**

This research study used descriptive statistics to first consider demographic information received from participants in the form of nominal data, followed by the use of t-tests (RQ1, RQ2, RQ3, RQ4), correlation (RQ5), and multiple regression (RQ6) analyses to examine the effect of online and hybrid courses on social integration, sense of connectedness, persistence or non-persistence, and academic performance among military students enrolled in such class modalities.

The data collected in the institution’s LMS system by Google’s survey tool was imported into Excel files for data cleaning, and later analyzed by using the statistical package for the social sciences (SPSS by IBM) for more detailed analysis. The collected data was analyzed by T-Test to assess if the means of two groups (online and hybrid courses) were statistically different from one another. Correlation analysis looked at the relationships among the variables. Regression was used to see whether persistence and academic performance could be predicted by the level of social integration and sense of connectedness.
Summary

This quantitative study sought to explore if online and hybrid course modalities influenced social integration and sense of connectedness, which then could impact persistence rates and academic performance among military students in a college environment. This study explored these factors in online and hybrid course structures.
CHAPTER 4. FINDINGS

This chapter presents the results of data that were collected from the student veterans surveyed and interviewed as part of a focus group. Both the demographic as well as the participants’ responses in regard to social integration, sense of connectedness as it applies to Bean and Metzner’s Adult Student Persistence Model, were collected from the survey. IBM’s SPSS statistical software was used for the purposes of data analyses in this research study. The specific topics in this chapter include: a review of the study’s purpose; restatement of research questions; the descriptive data analyses of participants’ demographics; inferential statistics; additional focus group analysis, and a chapter summary.

Review of the Purpose of the Study

The purpose of this quantitative explanatory research study was to examine the effects of online and hybrid academic courses for military students on their social integration, sense of connectedness, persistence rates, and academic performance. The role of social integration was emphasized in this study based on Bean and Metzner’s Adult Student Persistence Model, which was used as a theoretical framework in this research study. This study compared the influence, if any, of online and hybrid courses (independent variables) on the dependent variables of social integration, sense of connectedness, persistence rates, and academic performance to determine if the statistically significant variables were unique or not unique to a certain modality of course delivery for the military students. Consequently, this study contributes to the literature on military students’ educational experiences, and the role online and hybrid classes might play in influencing social integration, sense of connectedness, persistence, and academic performance in distance education courses. Their perceptions about sense of community and feeling socially integrated was examined to determine high importance of student-to-student and student-to-
instructor relationships, which could help academic institutions in creating online and course modalities to potentially increase persistence and academic performance among military learners.

**Research Questions**

There were six research questions in this study:

RQ1: Are there differences in course persistence rates among military students enrolled in online and hybrid courses?

RQ2: Are there differences in measures of social integration based on Bean and Metzner’s adult student persistence model among military students enrolled in online and hybrid courses?

RQ3: Are there differences in feeling a sense of connectedness among military students enrolled in online and hybrid courses?

RQ4: Are there differences in academic performance among military students enrolled in online and hybrid courses?

RQ5: What is the relationship between social integration and sense of connectedness and course persistence and academic performance among military students enrolled in online and hybrid courses?

RQ6: How well does level of social integration and strength of sense of connectedness predict persistence and academic performance of military students in online and hybrid courses?

**Sample Description and Data Screening**

In this research study, the military students enrolled in back-to-back online and hybrid courses at the local academic institution accessed the survey instrument via a Google Forms web link, which was shared by course instructors and distributed inside Blackboard learning management system to all actively registered military students in both hybrid and online courses.
The target population for this study was military students, including both active duty and veterans, who were classified as non-traditional military learners using G.I. Bill benefits to further their education and were officially registered in either a hybrid or an online course during two consecutive semesters in fall of 2017. The survey was distributed to approximately 648 active students enrolled in both semesters. The total responses included 102 students from the first semester and 60 students from the second semester, totaling 162 responses. Out of the 162 survey respondents, 158 were used for the quantitative data analysis. Fourteen survey participants were enrolled in both online and hybrid courses during the same semester. The data from these students were removed prior to analysis to answer the research questions. Their data were included as part of additional analyses reported later in this chapter. The remaining two survey submissions for each semester (four total) had incomplete answers, which means there were officially 90 student responses from the first semester and 68 student responses from the second semester. A response rate of approximately 25 percent was achieved as a total from both semesters.

Criteria for the study participation included, first, the student must have been enrolled in the local academic institution as a part-time or full-time military status type (active duty or veteran). Next, the student must have been currently using his or her G.I. Bill benefits to pay for the course registration costs. Lastly, the student must have been enrolled in at least one online and/or hybrid course in two consecutive 8-week semesters.

Demographics

The first part of the survey instrument contained a set of seven questions that were used to collect demographic information about the participants. The demographic questions covered one of two areas: personal self-disclosed information, and the student’s basic academic
background, such as course type history, GPA, and the length of attendance at the university. Demographic data collected from the survey instrument were relatively consistent with the general demographic composition of military students as discussed in Chapter 2.

There were 68 male and 90 female respondents. Of the 158 participants, 50 percent were Caucasian, 18.4 percent were Asian Pacific Islanders, 13.9 percent were African Americans, 12 percent were Spanish Hispanic, 3.2 percent were Native Americans, and 2.5 percent self-identified as other/mixed ethnicity. Table 4-1 below lists the demographic information about the survey participants.

Table 4-1. Survey Participants: Demographics Summary

<table>
<thead>
<tr>
<th>Variables</th>
<th>Responses (n=158)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>90 (57%)</td>
</tr>
<tr>
<td>Male</td>
<td>68 (43%)</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>22 (13.9%)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>29 (18.4%)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>79 (50%)</td>
</tr>
<tr>
<td>Native American</td>
<td>5 (3.2%)</td>
</tr>
<tr>
<td>Spanish/Hispanic</td>
<td>19 (12%)</td>
</tr>
<tr>
<td>Other Mixed</td>
<td>4 (2.5%)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>
Regarding their basic educational background, the majority of the survey respondents (59.5%) took five or more online courses during their academic journey. Additionally, roughly 30 percent of them took at least one hybrid course while approximately 35 percent of participants took five or more hybrid courses in the past. The majority of students (57.1 percent) reported their current (approximate) grade to be “B,” followed by 32.7 percent reporting as “A,” and finally, 10.2 percent self-disclosed a grade of “C.” Eleven students did not disclose their approximate grade in the survey.

In terms of the number of semesters completed at the local institution, 41.1 percent had attended five or more semesters, 19 percent attended three semesters, 18.4 percent attended at least one semester. Lastly, 10.8 percent of students attended two and four semesters respectively. Tables 4-2 and 4-3 provide the educational background of the survey participants.

Table 4-2. Survey Participants: Online and Hybrid Courses Taken

<table>
<thead>
<tr>
<th>Variables</th>
<th>Responses (n=158)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Online Courses</strong></td>
<td></td>
</tr>
<tr>
<td>1 Course</td>
<td>16 (10.1%)</td>
</tr>
<tr>
<td>2 Courses</td>
<td>13 (8.2%)</td>
</tr>
<tr>
<td>3 Courses</td>
<td>15 (9.5%)</td>
</tr>
<tr>
<td>4 Courses</td>
<td>20 (12.7%)</td>
</tr>
<tr>
<td>5 or More Courses</td>
<td>94 (59.5%)</td>
</tr>
</tbody>
</table>
**Table 4-2.** Continued

**Hybrid Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Course</td>
<td>48 (30.4%)</td>
</tr>
<tr>
<td>2 Courses</td>
<td>23 (14.6%)</td>
</tr>
<tr>
<td>3 Courses</td>
<td>21 (13.3%)</td>
</tr>
<tr>
<td>4 Courses</td>
<td>10 (6.3%)</td>
</tr>
<tr>
<td>5 or More Courses</td>
<td>56 (35.4%)</td>
</tr>
</tbody>
</table>

**Table 4-3.** Survey Participants: Reported Grade and Number of Semesters Attending the Institution

<table>
<thead>
<tr>
<th>Variables</th>
<th>Responses (n=158)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current GPA</strong></td>
<td></td>
</tr>
<tr>
<td>Grade “A”</td>
<td>48 (32.7%)</td>
</tr>
<tr>
<td>Grade “B”</td>
<td>84 (57.1%)</td>
</tr>
<tr>
<td>Grade “C”</td>
<td>15 (10.2%)</td>
</tr>
<tr>
<td>Not Reported</td>
<td>11 (7%)</td>
</tr>
<tr>
<td><strong># of Semesters Attending</strong></td>
<td></td>
</tr>
<tr>
<td>1 Semester</td>
<td>29 (18.4%)</td>
</tr>
<tr>
<td>2 Semesters</td>
<td>17 (10.8%)</td>
</tr>
<tr>
<td>3 Semesters</td>
<td>30 (19%)</td>
</tr>
<tr>
<td>4 Semesters</td>
<td>17 (10.8%)</td>
</tr>
<tr>
<td>5 or More Semesters</td>
<td>65 (41.1%)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>
A total of 158 military student responses were used for the data analysis in this research study. 56.9 percent were registered for a hybrid and/or online course in fall 2017 semester 8A (first eight weeks of classroom instruction) while 43.1 percent of participating students were officially registered for a hybrid and/or online course in fall 2017 semester 8B (second eight weeks of classroom instruction).

There were 112 students (70.3%) taking an online course compared to 32 students (20.9%) taking a hybrid course during the time of survey participation. The remaining 14 students (8.9%) were enrolled in both types of courses. Lastly, 89.9 percent of participants successfully passed their course(s) while 10.1 percent of them failed in their registered course(s) during the fall 2017 8A and 8B semesters. Table 4-4 describes the participants.

**Table 4-4. Enrollment and Grades: Fall 2017 8A and 8B Semester**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Responses (n=158)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester Enrollment</strong></td>
<td></td>
</tr>
<tr>
<td>Fall 2017 8A Session</td>
<td>90 (56.9%)</td>
</tr>
<tr>
<td>Fall 2017 8B Session</td>
<td>68 (43.1%)</td>
</tr>
<tr>
<td><strong>Course Type Enrollment</strong></td>
<td></td>
</tr>
<tr>
<td>Online</td>
<td>112 (70.9%)</td>
</tr>
<tr>
<td>Hybrid</td>
<td>32 (20.3%)</td>
</tr>
<tr>
<td>Both</td>
<td>14 (8.8%)</td>
</tr>
<tr>
<td><strong>Final Grade</strong></td>
<td></td>
</tr>
<tr>
<td>Pass</td>
<td>142 (89.9%)</td>
</tr>
<tr>
<td>Fail</td>
<td>16 (10.1%)</td>
</tr>
</tbody>
</table>
Quantitative Analyses

First, this research study used descriptive statistics to consider demographic information received from participants in the form of nominal data, followed by the use of T-Tests (RQ1, RQ2, RQ3, RQ4), correlation (RQ5) and multiple regression (RQ6) analysis to examine the effect of hybrid and online courses on social integration, sense of connectedness, persistence or non-persistence and academic performance among military students enrolled in online and hybrid courses. A total of 144 survey responses (excluding those 14 responses from students enrolled in both online and hybrid course(s) during the same semester) were used for the statistical analysis for all six research questions in this study.

Research Question One

The first research question was: Are there differences in course persistence rates among military students enrolled in online and hybrid courses? Or in other words, is there a relationship between what type of course students are enrolled in and their persistence rates?

In this study, persistence was defined as a student’s act of completing the course that he or she enrolled in during the semester and persisting by being enrolled in the subsequent semester. In other words, persistence referred to the act of continuing towards an educational goal (e.g., earning a bachelor’s degree) by being continuously enrolled in at least two consecutive semesters at the same academic institution (Voigt, 2008).

Out of 112 survey participants enrolled in online courses in two consecutive semesters, there were 80 students who “persisted” (71.4%) and 32 students who “did not persist” (28.6%). For the 32 students enrolled in hybrid courses, there were 23 students who “persisted” (71.9%) and nine students who “did not persist” (28.1%). A chi-square test of independence was performed to determine whether the course modality type in this study (online, hybrid) affected
the course persistence among the student veterans in two consecutive semesters. As indicated in Table 4-5, the results of this analysis showed no significant difference between the course modality and course persistence rates of the students, $X^2 (1, N = 144) = 0.00 p = .961$.

**Table 4-5.** Results of Chi-Square Test and Descriptive Statistics for Student Persistence by Course Type

<table>
<thead>
<tr>
<th>Course Type</th>
<th>“Persisted”</th>
<th>“Did Not Persist”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>80 (71.4%)</td>
<td>32 (28.6%)</td>
</tr>
<tr>
<td>Hybrid</td>
<td>23 (71.9%)</td>
<td>9 (28.1%)</td>
</tr>
</tbody>
</table>

*Note. $\chi^2 = 0.00^*$, df = 1. *$p < .05$*

**Research Question Two**

The second research question was: *Are there differences in measures of social integration based on Bean and Metzner’s adult student persistence model among military students enrolled in online and hybrid courses?*

An independent samples t-test analysis was conducted to compare the means of the two groups in hybrid and online course in relation to social integration, which included three subscales: interactions with students, interactions with faculty, and student development (faculty concern). The results in Table 4-6 show no significant difference in social integration among military students enrolled in online ($M = 3.28$, $SD = 0.62$) and hybrid courses ($M = 3.26$, $SD = 0.52$), $t(142) = 0.21$, $p = 0.834$, and the null hypothesis was retained.
Table 4-6. Results of t-test and Descriptive Statistics for Social Integration in Online and Hybrid Courses

<table>
<thead>
<tr>
<th></th>
<th>Online</th>
<th></th>
<th>Hybrid</th>
<th></th>
<th></th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>Social Integration</td>
<td>3.28</td>
<td>0.62</td>
<td>112</td>
<td>3.26</td>
<td>0.52</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Mean Difference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.03</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.

The independent samples t-test was also conducted to compare the means of the two groups (online and hybrid courses) on the three subscales of social integration. The sections below provide results for each of these tests in more detail.

Subscale #1: Peer Group Interactions

From the independent samples t-test, the results indicated no significant difference in peer group interactions for military students in online courses ($M = 3.08, SD = 0.63$) and hybrid courses ($M = 3.11, SD = 0.49$), $t(142) = -0.21, p = 0.833$, and the null hypothesis was retained.

Table 4-7. Results of t-test and Descriptive Statistics for Peer Group Interactions Construct (Social Integration) in Online and Hybrid Courses

<table>
<thead>
<tr>
<th></th>
<th>Online</th>
<th></th>
<th>Hybrid</th>
<th></th>
<th></th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>Peer Group Interactions Construct</td>
<td>3.08</td>
<td>0.63</td>
<td>112</td>
<td>3.11</td>
<td>0.49</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Mean Difference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.03</td>
<td>-0.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.

Subscale #2: Interactions with Faculty

From the independent samples t-test, the results indicated no significant difference in interactions with faculty for military students in online courses ($M = 3.28, SD = 0.86$) and hybrid courses ($M = 3.45, SD = 0.76$), $t(142) = -1.00, p = 0.321$, and the null hypothesis was retained.
**Table 4-8. Results of t-test and Descriptive Statistics for Interactions with Faculty Construct (Social Integration) in Online and Hybrid Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>Difference</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>3.28</td>
<td>0.86</td>
<td>112</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid</td>
<td>3.45</td>
<td>0.76</td>
<td>32</td>
<td>-0.17</td>
<td>-1.00</td>
<td>142</td>
</tr>
</tbody>
</table>

* p < .05.

**Subscale #3: Student Development by Faculty**

From the independent samples t-test, the results indicated no significant difference in student development by faculty for military students in online courses ($M = 3.52$, $SD = 0.92$) and hybrid courses ($M = 3.46$, $SD = 1.13$), $t(142) = 0.31$, $p = 0.759$, and the null hypothesis was retained.

**Table 4-9. Results of t-test and Descriptive Statistics for Student Development by Faculty Construct (Social Integration) in Online and Hybrid Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>Difference</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>3.52</td>
<td>0.92</td>
<td>112</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid</td>
<td>3.46</td>
<td>1.13</td>
<td>32</td>
<td>0.06</td>
<td>0.31</td>
<td>142</td>
</tr>
</tbody>
</table>

* p < .05.

**Research Question Three**

The third research question was: *Are there differences in feeling a sense of connectedness among military students enrolled in online and hybrid courses?* The independent samples t-test analysis was conducted to compare the means of the two groups (students in hybrid and online course) in relation to the construct of sense of connectedness as the dependent variable, which included the three subscales of comfort, community, and interaction and collaboration. The results in Table 4-10 indicated no significant difference in measure of sense of community
among military students enrolled in online courses ($M = 3.12, SD = 0.67$) and hybrid courses ($M = 3.00, SD = 0.56$), $t(142) = 0.92, p = 0.360$, and the null hypothesis was retained.

**Table 4-10.** Results of t-test and Descriptive Statistics for Sense of Connectedness in Online and Hybrid Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of</td>
<td>Online</td>
<td>3.12</td>
<td>0.67</td>
<td>112</td>
<td>Hybrid</td>
<td>3.00</td>
<td>0.56</td>
</tr>
<tr>
<td>Connectedness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.

The independent samples t-test was also conducted to compare the means of the two groups (online and hybrid courses) on the three subscales of sense of connectedness. The sections below provide results for each of these tests in more detail.

**Subscale #1: Comfort**

From the independent samples t-test, the results indicated no significant difference in comfort for military students in online courses ($M = 4.00, SD = 0.67$) and hybrid courses ($M = 3.77, SD = 0.77$), $t(142) = 1.66, p = 0.099$, and the null hypothesis was retained.

**Table 4-11.** Results of t-test and Descriptive Statistics for Comfort Construct (Sense of Connectedness) in Online and Hybrid Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort</td>
<td>Online</td>
<td>4.00</td>
<td>0.67</td>
<td>112</td>
<td>Hybrid</td>
<td>3.77</td>
<td>0.77</td>
</tr>
<tr>
<td>Construct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.
Subscale #2: Community

From the independent samples t-test, the results indicated no significant difference in community for military students in online courses ($M = 2.23, SD = 0.85$) and hybrid courses ($M = 2.22, SD = 0.66$), $t(142) = 0.03, p = 0.974$, and the null hypothesis was retained.

**Table 4-12.** Results of t-test and Descriptive Statistics for Community Construct (Sense of Connectedness) in Online and Hybrid Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Mean</th>
<th>Difference</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Construct</td>
<td>2.23</td>
<td>0.85</td>
<td>0.01</td>
<td>0.03</td>
</tr>
</tbody>
</table>

* * p < .05.

Subscale #3: Interaction and Collaboration

From the independent samples t-test, the results indicated no significant difference in interaction and collaboration for military students in online courses ($M = 3.26, SD = 0.96$) and hybrid courses ($M = 3.03, SD = 1.02$), $t(142) = 1.20, p = 0.231$, and the null hypothesis was retained.

**Table 4-13.** Results of t-test and Descriptive Statistics for Interaction and Collaboration Construct (Sense of Community) in Online and Hybrid Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Mean</th>
<th>Difference</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction and Collaboration Construct</td>
<td>3.26</td>
<td>0.96</td>
<td>0.23</td>
<td>1.20</td>
</tr>
</tbody>
</table>

* * p < .05.

Research Question Four

The fourth research question was: *Are there differences in academic performance among military students enrolled in online and hybrid courses?* In other words, is there a relationship
between type of course a student enrolls in (online or hybrid) and her or his academic performance? Originally, the participation site for this research study was going to provide actual final grades of each student who participated in this study. However, due to administrative changes at that institution, the researcher was only able to obtain final grades in the form of “Pass” and “Fail” descriptors, not the actual grades. This could have affected the findings.

Out of 112 survey participants enrolled in online courses in two consecutive semesters, there were 104 students who “Passed” the course (92.9%) and eight students who “Failed” the course (7.1%). For the 32 students enrolled in hybrid courses, there were 28 students who “Passed” the course (87.5%) and four students who “Failed” the course (12.5%). A chi-square test of independence was performed to determine whether the course modality type in this study (online, hybrid) affected the final grade (pass, fail) among the student veterans in two consecutive semesters. As indicated in Table 4-14, the results of chi-square analysis showed no significant difference between the course modality and final grades of the students, $X^2 (1, N = 144) = 0.94, p = .334$.

**Table 4-14. Results of Chi-Square Test and Descriptive Statistics for Final Grade by Course Type**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Student’s Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Pass”</td>
</tr>
<tr>
<td>Online</td>
<td>104 (92.9%)</td>
</tr>
<tr>
<td>Hybrid</td>
<td>28 (87.5%)</td>
</tr>
</tbody>
</table>

*Note. $\chi^2 = 0.94*$, df = 1, *p < .05
Research Question Five

The fifth research question was: What is the relationship between social integration and sense of connectedness and course persistence and academic performance among military students enrolled in online and hybrid courses?

The correlation analysis is generally used “to describe strength and direction of the linear relationship between two variables” (Pallant, 2010, p. 128). The correlation analyses for the constructs of social integration, sense of connectedness, course persistence, and academic performance was completed by using Pearson Product Moment Correlation coefficient (r) and the Point-biserial Correlation coefficient (rpbis) in order to examine how strongly related the variables were. These two correlation coefficient analyses were used in this research study to establish any existing trends in the relationship between the dependent variables (social integration, sense of connectedness, course persistence, academic performance) and the independent variables (online and hybrid courses for military students). The significance level was set at .05 (p < .05).

In Table 4-15 below, a Pearson product-moment correlation coefficient was computed to assess the relationship among the dependent variables of social integration, sense of connectedness, persistence, and academic performance among the military students enrolled in online courses. The results suggest that no correlations were statistically significant, and only one of four correlations (social integration and sense of connectedness) was moderately correlated $r(112) = .68, p < .05$, two-tailed.
Table 4-15. Relationship Between Social Integration, Sense of Connectedness, Course Persistence and Academic Performance Among Military Students Enrolled in Online Courses: Correlations and Descriptive Statistics (N=112)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social Integration</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sense of Connectedness</td>
<td>.68</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Persistence</td>
<td>.03</td>
<td>.02</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>4. Academic Performance</td>
<td>.15</td>
<td>.35</td>
<td>.05</td>
<td>–</td>
</tr>
</tbody>
</table>

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

In Table 4-16 below, a Pearson product-moment correlation coefficient was computed to assess the relationship among the dependent variables of social integration, sense of connectedness, persistence, and academic performance among the military students enrolled in hybrid courses. The results suggest that no correlations were statistically significant, and only one of four correlations (social integration and sense of connectedness) was moderately correlated $r(32) = .58, p < .05$, two-tailed.

Table 4-16. Relationship Between Social Integration, Sense of Connectedness, Course Persistence and Academic Performance Among Military Students Enrolled in Hybrid Courses: Correlations and Descriptive Statistics (N=32)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social Integration</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sense of Connectedness</td>
<td>.58</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Persistence</td>
<td>-.02</td>
<td>.01</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>4. Academic Performance</td>
<td>-.10</td>
<td>-.08</td>
<td>.18</td>
<td>–</td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.  ***p < .001.
**Correlation Results for Subscales**

Additionally, for Research Question #5, a Pearson product-moment correlation coefficient was computed to assess the relationship among the individual subscales for the main constructs of social integration and sense of connectedness. The results in Table 4-17 (online courses) suggest that no correlations were statistically significant, although some were moderately correlated, including the moderate correlation, $r(112) = .59, p < .05$, two-tailed, between “Interaction and Collaboration” and “Community” (both as part of the main scale of sense of connectedness and so to be expected).

The results in Table 4-18 (hybrid courses) suggest that no correlations were statistically significant, although some were moderately correlated, including the moderate correlation, $r(32) = .48, p < .05$, two-tailed, between “Community” (part of sense of connectedness main scale) and “Interactions with Students” (part of social integration main scale). Since these two subscales measure related constructs, this is not surprising.

**Table 4-17.** Pearson R Coefficient Results for Construct Subscales of Social Integration and Sense of Connectedness in Online Courses (N=112)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interaction and Collaboration</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Community</td>
<td></td>
<td></td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Comfort</td>
<td></td>
<td></td>
<td>.48</td>
<td>.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Interactions with Students</td>
<td></td>
<td></td>
<td>.27</td>
<td>.48</td>
<td>.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Interactions with Faculty</td>
<td></td>
<td></td>
<td>.40</td>
<td>.53</td>
<td>.52</td>
<td>.53</td>
<td></td>
</tr>
<tr>
<td>6. Student Development</td>
<td></td>
<td></td>
<td>.30</td>
<td>.26</td>
<td>.36</td>
<td>.40</td>
<td>.41</td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.  ***p < .001.
Table 4-18. Pearson R Coefficient Results for Construct Subscales of Social Integration and Sense of Connectedness in Hybrid Courses (N=32)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interaction and Collaboration</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Community</td>
<td>.44</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Comfort</td>
<td>.20</td>
<td>.22</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Interactions with Students</td>
<td>.16</td>
<td>.48</td>
<td>.35</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Interactions with Faculty</td>
<td>.21</td>
<td>.37</td>
<td>.25</td>
<td>.18</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>6. Student Development</td>
<td>.13</td>
<td>.09</td>
<td>.23</td>
<td>.22</td>
<td>.03</td>
<td>–</td>
</tr>
</tbody>
</table>

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

Research Question Six

The sixth research question was: *How well does level of social integration and strength of sense of connectedness predict persistence and academic performance of military students in online and hybrid courses?* Multiple regression analysis was used to test if the level of social integration and strength of sense of connectedness predicted persistence and academic performance of military students. The following Tables 4-19 and 4-20 provide the results of the regression analysis of the level of social integration and the strength of sense of connectedness for the dependent (Y) variable of persistence and academic performance among military students in online and hybrid courses. The results of the regression analysis indicated only one variable (sense of connectedness) was statistically significant in terms of predicting the academic performance (grade) among the military students in online courses. The standardized β is 0.47, which is considered a moderate effect (p < .001).
Table 4-19. Summary of Simple Regression Analyses for Variables Predicting Persistence and Academic Performance Among Military Students in Online Courses (N = 112)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Persistence</th>
<th>Academic Performance (Grade)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Social Integration</td>
<td>0.03</td>
<td>0.10</td>
</tr>
<tr>
<td>Sense of Connectedness</td>
<td>0.00</td>
<td>0.09</td>
</tr>
</tbody>
</table>

$R^2$  -0.02                      0.12

$F$  0.06                        8.88

*p < .05. **p < .01.

Table 4-20. Summary of Simple Regression Analyses for Variables Predicting Persistence and Academic Performance Among Military Students in Hybrid Courses (N = 32)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Persistence</th>
<th>Academic Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Social Integration</td>
<td>-0.04</td>
<td>0.20</td>
</tr>
<tr>
<td>Sense of Connectedness</td>
<td>0.03</td>
<td>0.19</td>
</tr>
</tbody>
</table>

$R^2$  -0.07                      -0.06

$F$  0.02                        0.16

*p < .05. **p < .01.

Additional Quantitative Analysis (ANOVA)

In this section, I would like to provide results from additional statistical analysis conducted in this study. In this research study, there were three course modalities reported by the students: “online,” “hybrid,” and “both” course types. There were 14 students enrolled in both
online and hybrid courses during the same semester as indicated on the survey. This group of
students was excluded from previous analyses as the research questions were originally focused
only on examining potential differences between online and hybrid course outcomes. Therefore,
the one-way analysis of variance (ANOVA) was used to determine whether there were any
statistically significant differences between the online, hybrid and both course modalities.

Additional statistical analysis was conducted for research question RQ4, which was: *Are there differences in academic performance among military students enrolled in online and hybrid courses?*

The results indicated a significant effect on academic performance at the p<.05 level for
the three conditions [F (2,155) = 3.340, p < .05.]. Post hoc comparisons using the Tukey HSD
test indicated that the mean score for the “Online” courses (M = 4.03, SD= 1.393) was 0.214
higher than the “Both” group’s mean (M = 3.816, SD = 1.189) with significance at the 0.05
level. Therefore, according to Tukey’s multiple comparison, the “Online” course modality mean
was significantly higher than the “Both” course types mean for the dependent variable “Grade.”

Additional statistical analysis was conducted for research question RQ5, which was:
*What is the relationship between social integration and sense of connectedness and course
persistence and academic performance among military students enrolled in online and hybrid
courses?* In Table 4-21 below, a Pearson product-moment correlation coefficient was used to
assess the relationships among the dependent variables of social integration, sense of
connectedness, persistence, and academic performance among the military students enrolled in
“Both” types (online and hybrid) courses. The results in Table 4-21 suggest that no correlations
were statistically significant, and only one of four correlations (social integration and
persistence) were moderately negatively correlated \( r(14) = -.55, \ p < .05, \) two-tailed.
**Table 4-21.** Relationship Between Social Integration, Sense of Connectedness, Course Persistence and Academic Performance Among Military Students Enrolled in Both Courses: Correlations and Descriptive Statistics (N=14)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social Integration</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sense of Connectedness</td>
<td>.52</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Persistence</td>
<td>-.55</td>
<td>-.25</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>4. Academic Performance</td>
<td>-.09</td>
<td>-.07</td>
<td>.00</td>
<td>–</td>
</tr>
</tbody>
</table>

Furthermore, additional correlation analysis was completed for the subscales of social integration and sense of connectedness for students taking both online and hybrid courses simultaneously during one semester. The results in Table 4-22 below suggest that some correlations were moderately correlated, and one correlation between “Interactions with Students” and “Interactions with Faculty” (both are a part of social integration main scale), were significantly correlated, \( r(14) = .80, p < .05 \), two-tailed.
Table 4-22. Pearson R Coefficient Results for Construct Subscales of Social Integration and Sense of Connectedness in “Both” Courses (N=14)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interaction and Collaboration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Community</td>
<td></td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Comfort</td>
<td></td>
<td>.62</td>
<td>.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Interactions with Students</td>
<td></td>
<td>.04</td>
<td>.42</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Interactions with Faculty</td>
<td></td>
<td>-.03</td>
<td>.38</td>
<td>.09</td>
<td>.80</td>
<td></td>
</tr>
<tr>
<td>6. Student Development</td>
<td></td>
<td>-.50</td>
<td>.11*</td>
<td>-.38</td>
<td>.47</td>
<td>.60</td>
</tr>
</tbody>
</table>

Lastly, a regression analysis was conducted to determine whether social integration and sense of connectedness predicted persistence and academic performance of military students enrolled in both online and hybrid courses. Table 4-23 suggests no significant predictors.

Table 4-23. Summary of Simple Regression Analyses for Variables Predicting Persistence and Academic Performance Among Military Students in Both Courses (N = 14)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Persistence</th>
<th></th>
<th></th>
<th>Academic Performance</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>Social Integration</td>
<td>-0.70</td>
<td>0.35</td>
<td>-0.58</td>
<td>-0.9</td>
<td>0.38</td>
<td>-0.08</td>
</tr>
<tr>
<td>Sense of</td>
<td>0.03</td>
<td>0.21</td>
<td>0.05</td>
<td>-0.02</td>
<td>0.23</td>
<td>-0.03</td>
</tr>
<tr>
<td>Connectedness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td></td>
<td></td>
<td>0.18</td>
<td></td>
<td></td>
<td>-0.17</td>
</tr>
<tr>
<td>$F$</td>
<td></td>
<td></td>
<td>2.46</td>
<td></td>
<td></td>
<td>0.05</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.
Additional Qualitative Analyses (Focus Group)

This study was focused on social integration and sense of connection among military students enrolled in hybrid and online courses with a particular emphasis on seeing whether there were differences in feelings of social integration as well as feeling a sense of connectedness among students enrolled in the two course delivery methods, fully online courses and hybrid courses. In an effort to better understand military students as a part of unique group of nontraditional adult learners, I conducted a focus group session with seven military students, who volunteered their time as an additional part of my overall research process. While I did not have any direct research questions related to the qualitative data that was collected during the focus group sessions, the seven interviewees did provide an opportunity to better understand the personal experiences of military students in both online and hybrid courses, and how those experiences reflected social integration and sense of connectedness in those two learning modalities.

Analysis from the transcription of interview (four hybrid students and three online students) found several aspects related to their perceptions of the courses that could be compared across the two groups. These aspects included: convenience, faculty interaction and support, peer interaction, collaboration, and support, and finally, communication and feedback.

Table 4-24 lists the four main themes that emerged for students enrolled in the online and hybrid courses. While the overall themes were similar, there were subtle differences in how those aspects were interpreted among the students in the two groups. These themes are further elaborated following Table 4-24.
Table 4.24. Focus Group Aspects and Corresponding Themes

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Hybrid Theme</th>
<th>Online Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience</td>
<td>On base</td>
<td>Anytime Anywhere</td>
</tr>
<tr>
<td>Faculty Interaction &amp; support</td>
<td>Feel supported</td>
<td>Feel disconnected</td>
</tr>
<tr>
<td>Peer Interaction, Collaboration &amp; support</td>
<td>Strong bonds with classmates; Learning independence; Connections with military peers desired</td>
<td>Feeling isolated; Feeling of disconnectedness</td>
</tr>
<tr>
<td>Communication &amp; Feedback</td>
<td>Preference for personal and face-to-face interactions; Importance of faculty proximity</td>
<td>Limited communication; Rigid feedback structure</td>
</tr>
</tbody>
</table>

Aspect #1: Convenience

Convenience refers to students feeling that course delivery methods met their needs for convenience. Both groups seemed to appreciate the convenience offered by taking courses that were not all face-to-face. For example, online students interviewed talked about convenience as being able to access things from anywhere: “I take online classes mostly for convenience…” or “It is easy access course materials anywhere if proper technology is being used. (work, home, travel, etc.)” Hybrid students also mentioned convenience, but not in the same manner. They referred more to having class schedules convenient to their military schedules, classes on base, and having an opportunity to physically meet with the instructor, such as: “Hybrid courses work well with our tough military schedules.” and “I appreciate the convenient courses on base…” or “I had an easy access to the instructor if needed.”
Aspect #2: Faculty Interaction and Support

Faculty and student interaction can include both formal direct instruction in a classroom setting, as well as more informal mentoring and support. The two groups of military students seemed to differ in their perspective on faculty interaction and support in online and hybrid courses. For the online students that were interviewed, they perceived this aspect in more negative way, such as: “I received no answer or help from the instructor...never received a response, and I was left to my own understanding of this online course” or “I usually received no response via course mail/e-mail message from the instructor...”. On the other hand, students from the hybrid courses highlighted some positive aspects of their interactions with faculty as well as getting their support: “The instructor was funny, engaging, and helpful. He stayed extra time to help students out.” and “Seeing the concern of genuine instructors helps a lot in hybrid course formats.” and “If I had any questions about what I am learning now, or about what relates to my military work, the interactions in hybrid courses with the instructors are good.”

Aspect #3: Peer Interaction, Collaboration, and Support

There also seemed to be a genuine desire and appreciation in both groups for authentic peer interactions and classmate support. Peer interaction and support was emphasized several times during the interviews with students from both online as well as hybrid course formats. Relationship building and collaboration was mentioned frequently by the interviewed military learners.

For the online students, some reported having positive outcomes of peer-to-peer interactions in their courses, such as: “This was a good place (discussion forums) to see how all students think and feel differently.” However, other online military students reported frustrations regarding their interactions with their online classmates, and they did not feel much genuine
support from them: “You cannot get personal online…” and “I was feeling disconnected since I cannot physically see the other students in my class….” or “I can only ‘click’ with certain people online.” The students in hybrid course formats also mentioned the importance of peer interaction and support, but in a more positive light, such as: “I had strong bond with classmates…” and “It indeed helped me seeing classmates in the same class.” or “I prefer having personal interactions with students in my classes.”

Collaboration and support also played important roles in the overall experiences among both online and hybrid students. The online group reported the feeling of disconnectedness, such as “I sometimes felt disconnected since I cannot physically see the other students in my class.” and “I am feeling uncomfortable to use discussions online at times because we would mostly interact among ourselves without much input from the instructor…!” For the hybrid group, proximity connections with other students was highly desired: “Close connections with other students was important to me when needed in my hybrid course.” However, some hybrid students reported that they preferred to stay independent, and in some cases, they only wanted to interact with just the instructor to succeed in the course: “I’m a mostly independent kind of a person.” and “I’m pretty independent self-learner sort of a person when to comes to learning in my physical (hybrid) class.” and lastly, “Interacting with other students in the hybrid courses....., since I am pretty old, I don't usually interact with other students that much.”

Aspect #4: Communication and Feedback

The interview participants from the focus group also highlighted the significance of communication and feedback from both the instructor and their peers. For example, online students mentioned communication as an important aspect in their learning environment: “The discussion forums were a good place to see how all students think and feel differently about
various subjects in the class...” and “Instructors should have communication strategies planned well in advance when teaching their online courses.” whereas, other online students had negative experiences in terms of communication and feedback, such as: “There was a lack of communications from the instructor. Some were great though with quick responses in my other online course.” Lastly, others in online courses desired for more personalized type of communication and feedback as in this student quote: “I wish to elaborate more with peers and instructors when being online...It felt too rigid at time with very limited learning and teaching environment...” or “I need to know the instructor's thoughts as well when learning online; not just discussing among ourselves as students. (in discussion forums)”

On the other hand, hybrid course students also mentioned the importance of communication and feedback, but in more positive ways, such as: “Overall, I had good interactions with faculty” and “I prefer personal interactions with students.” Furthermore, some military students in hybrid courses reiterated that they take these types of courses mostly because they want to have a more specialized relationship with the faculty and their military peers: “I prefer to interact face-to-face with an instructor” or “I usually like to work and interact face-to-face with military peers only in my classes”.

Summary of Qualitative Findings

While the quantitative results showed no statistical differences between the two groups, findings that may have been influenced by the unequal sample sizes or the generally low levels of reported social integration and sense of connectedness in either group, the qualitative findings, which were part of additional analysis, suggest there may be some differences. Both groups appreciated and sought convenience in their course taking. However, students in the purely online courses in their interview comments indicated they felt disconnected from faculty and
isolated from their peers and experienced low levels of communication and rigid feedback structures. Hybrid students expressed a preference for face-to-face interaction, desired peer connections, and faculty proximity, which may be why they chose the hybrid mode.

To sum up, while these qualitative findings from the focus group highlight some interesting differences in terms of course modality and a sense of community from the student’s perspectives, they only represent an additional analysis, and are not a part of the main research of this study.

Limitations

There were a few specific limitations associated with the data analysis as presented in this Chapter 4. The researcher collected 132 responses from students enrolled in at least one online course during a semester compared to 32 responses from students enrolled in at least one hybrid course. This shows an unequal sample size that might have affected the overall findings related to the six research questions. Also, the unequal sample sizes may have made specific differences more difficult to determine.

Furthermore, at the beginning of the data collection process, the researcher hoped to receive actual final grades from the institutional research department at the participating university. However, at the discretion of the department’s new director after the survey data were collected, the researcher was only able to obtain final grades of each student in the form of “Pass” or “Fail” grade status from the institutional research unit.

The participants may have previously enrolled in various types of delivery modes during prior semesters, which may have influenced their responses in this research study. In addition, survey research assumes that participants have provided honest responses and that those responses are reflective of the larger group, which might not be true. Finally, this research was
conducted at one private university in the Pacific region and may not generalize to other institutions or geographic regions.

Summary

Chapter 4 described the data analyses results that related to the research study. The main purpose of the study, together with the six research questions was presented along with the descriptive statistics of survey respondents’ demographics. Next, collected data from the survey responses were explored by using t-tests, chi-square, correlation, regression, and ANOVA methods for further analysis. Additionally, the results of the qualitative interview data were presented as emerging themes related to the topics of social integration and sense of connectedness among military students. The next and final chapter will discuss the results in relationship to the literature and the theoretical/conceptual framework used in this study together with recommendations for future practice and research.
CHAPTER 5. DISCUSSION AND IMPLICATIONS

This study explored the role and impact of social integration and sense of connectedness in online and hybrid courses and their influence on persistence rates and academic performance among military students. The summary of findings related to this research study and conclusions from the collected and analyzed data are described in Chapter 5. This chapter includes a discussion of major findings related to the literature on military students and online and hybrid course environments. Additionally, this chapter will provide recommendations for practice and further research. Overall, the topics covered in this chapter include research summary, summary of main findings, results discussion, study limitations, recommendations for practice and recommendations for future research, as well as a brief chapter summary.

Research Summary

The purpose of this quantitative research study was to examine the effects of online and hybrid academic courses for military students on their social integration, sense of connectedness, persistence rates, and academic performance, and the relationship between social integration, sense of connectedness, persistence and performance. Previous studies have highlighted the increased online and hybrid course offerings in post-secondary academic institutions to improve course access and flexibility for both traditional and non-traditional learners (Allen & Seaman, 2013; Allen et al., 2016; Jaggars, 2014; Taylor et al., 2011). Although there has been an increase in research about the characteristics of nontraditional students in online and hybrid courses, only a few studies have focused specifically on military learners as a unique and fast-growing subset of this nontraditional student population. The literature did indicate that the numbers of military students enrolling in online and hybrid postsecondary courses is growing (Falkey, 2016). Difficulties relating to student peers, faculty members, and experiencing the loss of camaraderie
are some of the factors cited in studies that affect persistence rates and academic performance among military students in higher education (Ackerman et al., 2009; DiRamio & Jarvis, 2011; McBain et al., 2012; Olsen et al., 2014; Schiavone & Gentry, 2014; Wheeler, 2012). Other research on postsecondary students in general, shows that social integration and feeling connected can positively impact student persistence and performance (O'Keeffe, 2013). No studies were found in the literature that looked specifically at the role of social integration and sense of connectedness for military students in online and hybrid settings. Therefore, a study about military students and the relationship between their persistence and academic performance in online and hybrid courses and their sense of social integration and sense of connectedness was conducted to better understand these intersections.

An online survey was distributed via a learning management system to collect data from military students enrolled in postsecondary online and hybrid courses during two consecutive eight-week semesters at a large private university in Hawai‘i. The collected data were analyzed and tested using chi-square tests of independence for the research questions one and four, t-tests for research questions two and three, Pearson product-moment correlation for research question five, and multiple regression for research question six to examine military students in hybrid and online courses and their social integration, sense of connectedness, persistence or non-persistence and academic performance. The following sections will discuss the findings of this research study.

**Summary and Discussion of Findings**

This section explores findings from the collected data to help answer the following six research questions:
(RQ1): Are there differences in course persistence rates among military students enrolled in online and hybrid courses?

(RQ2): Are there differences in measures of social integration based on Bean and Metzner’s adult student persistence model among military students enrolled in online and hybrid courses?

(RQ3): Are there differences in feeling a sense of connectedness among military students enrolled in online and hybrid courses?

(RQ4): Are there differences in academic performance among military students enrolled in online and hybrid courses?

(RQ5): What is the relationship between social integration and sense of connectedness and course persistence and academic performance among military students enrolled in online and hybrid courses?

(RQ6): How well does level of social integration and strength of sense of connectedness predict persistence and academic performance of military students in online and hybrid courses?

**Persistence of Military Students in Online and Hybrid Courses**

For the purposes of this research study, persistence was defined as a student’s act of completing the course that he or she enrolled in during the semester and by being enrolled in the subsequent semester. Many academic institutions, use course persistence as an important measurement of student motivation to persist from course to course, thus influencing the overall degree completion process of a learner. It is the willingness of a student to persist, even when faced with challenges during their academic journey, and it is a major concern for many universities today (Stewart, Lim, & Kim, 2015). Findings in this study suggest that there is no significant difference between online and hybrid courses in terms of course persistence rates among military students with both groups having about a 71% persistence rate. This finding is in
contrast to previous research in the literature showing that both traditional and nontraditional students were more likely to fail or withdraw from online courses than from hybrid or face-to-face courses, and that students who took online coursework in the first or second semester of their academic program were slightly, but significantly, less likely to return to school in future terms (Xu & Jaggars, 2011). In this study, it appears there is room for improved retention in both the online and hybrid modes.

There can be other factors influencing student persistence in these two course environments. As Bawa (2016) pointed out, some of the factors influencing online learner persistence or dropout rates are cognitive load, social and family factors and motivational factors. Lee, Choi, and Kim (2013) further described five influential factors that determine student persistence in hybrid courses, such as external support, academic locus of control, academic self-efficacy, time and environment management skills, and metacognitive self-regulation skills.

Moreover, according to Navarre, Cleary & Wozniak, nontraditional students, including veteran learners, are considered adult learners (2013). Adult learners, as Knowles (1980) highlighted in his past research, often exhibited the following characteristics: They primarily required learning experiences to be self-directed; they come with diverse past experiences and are task- and problem-oriented; and they are highly internally motivated individuals. Therefore, when nontraditional military students decide to participate in higher education, the expectation may exist for coursework to be relevant and applicable to their current or future career goals (Hagelskamp, Schleifer, and DiStasi, 2013; Sissel, Hansman, and Kasworm, 2001; Sutherland, 1996). Thus, some military students might drop out of their current or subsequent course if the course content, not necessarily the course environment, does not fulfill their expectations in terms of relevancy or applicability to their current or future professional career.
Lastly, many universities originally developed online learning course standards and classroom expectations with the traditional type of a student in mind (Brown & Gross, 2011). However, Gillet-Swan (2017) argued in her research that such a “cookie-cutter” approach is often ineffective in online classes. Thus, it may cause additional isolation of online military students, who are a subgroup of nontraditional students, and who might already feel secluded from traditional student population on various college campuses (Johnson, 2017).

**Social Integration Among Military Students in Online and Hybrid Courses**

For the purposes of this research study, social integration was defined as “the extent and quality of students’ interaction with the social system of the college environment” (Bean & Metzner, 1985, p. 507). This can include, among other things, extracurricular activities, satisfaction with peer interactions, and support. After an extensive literature review, Bean and Metzner (1985) developed a theoretical model to study nontraditional student persistence. While recognizing the importance of both social and academic factors that existed in Tinto’s (1975) Student Integration Theory, the researchers focused on the role of social integration in the environment, in which the student interacts with other peers and faculty as well as the importance of camaraderie and peer-to-peer encouragement in the greater context of an external environment, including family/work commitments, academic responsibilities, and outside encouragement to persist in school. One hypothesis in Bean and Metzner’s study was that a positive external environment for a learner, such as social integration with other learners or having meaningful a relationship with an instructor, would outweigh poor academic support offered by the institution; however, poor environmental conditions would still overshadow positive academic influences, thus leading student not to persist further in their studies (Ford and Vignare, 2015).
This research study examined at whether there were differences in perceptions of social integration among the military students in online and hybrid courses. The results suggest that there is no significant difference in social integration among military students enrolled in online and hybrid courses. In both hybrid and online courses, the level of social integration was rated at about 3.25 on a five-point scale where three was a rating of “not sure.” This indicates that in neither approach did students feel particularly socially integrated. Comparisons on the three main subscales of social integration, namely peer group interactions, interactions with faculty, and student development (faculty perspective), also showed no significant difference between the course delivery modes. For both groups, peer interaction was rated the lowest while faculty interaction was next lowest and student development was rated the highest. Only the online groups’ rating of student development rose above 3.50 indicating some agreement that they felt faculty supported student development.

However, the additional qualitative data from the focus group raise some interesting questions about this finding. First, military students who participated in either online or hybrid courses expressed appreciation of peer-to-peer interactions and classmate support, and felt those to be important aspects of relationship building among the learners in both learning modalities. In the online environment, some of the focus group participants felt that having close interactions with other learners in online discussion forums, for example, helped them see the differences in thinking as well as how others felt about the course content, topics, etc. On the other hand, some online military students shared a certain level of frustrations during their focus group interviews in terms not being able to connect with other classmates or the instructor. Military learners in the hybrid courses also expressed their feelings about the importance of peer-to-peer support and learner-to-instructor interaction in the course. It appears that in both modalities, while student
focus group responses pointed to the importance of these aspects in a course, neither group rated positively on the survey their perception of these things happening in their courses.

Nevertheless, for many military students enrolling in a college or taking a college course for the first time can be overwhelming, especially after completing many years in a specialized professional environment that emphasizes a team concept as a fundamental block of military culture. Therefore, if such team concept is missing in a secluded academic environment, such as an online or hybrid course, military learners might find themselves confused, anxious, and not knowing what is ahead of them in terms of their academic journey through current and future courses, which is aligned with suggestions from Bishop (2018).

The literature on online course environments emphasizes the value of a positive perception of social integration and things such as social presence, as indicators of successful completion of the online class with a better final grade (Liu, Gomez, & Yen, 2009). For hybrid courses, previous studies described several attributes that are valued by students, such as class scheduling, instructor availability, and physical presence with other students (Hall & Villereal, 2015). Moreover, personalized attention to a student in both modalities (face-to-face/online), which comprises the overall blended environment, was also rated high. Thus, social integration has been found to play an important role in persistence rates of students participating in such course modes (El Mansour & Mupinga, 2007). However, these studies that point to the importance of personal interactions are dated and perhaps as online and hybrid delivery has become more common, findings may differ.

Before enrolling in a college course, many student veterans experience extreme changes in their military life, such as deployment, trauma or PTSD (Ballenger-Browning & Johnson, 2010). Brock (2018) argued one way to overcome these challenges is through the military culture of brotherhood, which can be a vital component of educational experience among military
learners, especially in online settings, in order to overcome potential academic struggles. Therefore, it seems that social integration and building relationships with others in class may be important for many veterans engaged in their online academic work.

However, even though many veterans feel isolated in their educational environments, Wilson et al. (2013) posited that some purposefully avoid socializing or trying to socially integrate in their courses and focus more on academic integration as measured by GPA rather than on social integration. Thus, examining the link between academic integration and persistence rather than solely focusing on social integration alone, could be more beneficial to academic institutions to combat low persistence rates of military learners (DiRamio & Jarvis, 2011).

Overall, according to Stone (2015), as the trend of military students continue to increase in all educational modalities, especially in online and hybrid courses due to their availability, convenience, and ease of access, it is important to understand the factors influencing their academic journey, such as social integration and relationships with their peers, and identifying the level of significance of such factors when it comes to persistence in online or hybrid classroom.

**Sense of Connectedness Among Military Students in Online and Hybrid Courses**

For the purposes of this research study, sense of connectedness was defined as “learners seeing themselves as members of a community with other fellow students and faculty who appreciate students’ unique values, personalities, and individual characteristics, thus, making them feel that they matter and belong in those particular learning environments” (Drouin, 2008, p. 269). The sense of connectedness also emphasizes how supported each student feels, how comfortable he/she perceives him or herself to be in class, as well as the learner’s general feeling
concerning the classroom learning atmosphere (Brown & Starrett, 2017). In other words, it means that students feel included as well as they have a sense of belonging in the academic environment where they learn and participate with others.

Findings showed no significant difference in feeling a sense of connectedness among military students enrolled in online and hybrid courses. Once again, ratings for both groups were rather low on the 5-point scale (online 3.12 and hybrid 3.00), with a rating of 3 indicating “no opinion.” This indicates that in neither modality did student feel particularly connected. While the three subscales for sense of connectedness also showed no significant difference between the two groups, there were some interesting patterns. Students in both groups indicated they were comfortable in their learning environment (online mean 4.00 and hybrid mean 3.77), However, their ratings on levels of collaboration and interaction with one another were lower in both modalities (online 3.26 and hybrid 3.03) and both groups essentially disagreed that they felt a sense of community in the course. For all three subscales while not statistically different, students in the hybrid courses actually had lower ratings than those in the fully online courses.

It is important to note that for online courses, a lack of connectedness can produce feelings of isolation and loneliness as well as distress, which could be primarily caused by limited or nonexistent face-to-face interaction with their fellow students or instructors (Gallagher-Lepak et al., 2009). In hybrid courses, sense of connectedness also plays an important role in terms of student comfort, increased class participation, and improved academic performance (Brown & Starrett, 2017). It appears in both environments students’ sense of connection was fairly low which may have more to do with the instructional strategies used than with the course delivery mode.

In the literature, the use of a variety of student activities in a classroom setting to enhance sense of community and overall connectedness is well supported (Haythornthwaite et al., 2000;
Palloff & Pratt, 2007a; Rovai, 2007). Additional research also suggests implementation of collaborative communities of inquiry (Richardson et al., 2012), such as an introductory discussion board or a bulletin for student reflection in order to improve both learning and a sense of belonging among students in online course modalities. Moreover, Trespalacios and Perkins (2016) highlighted the importance of a multi-modal asynchronous communication at the beginning of new online or hybrid courses, which allowed students to share their learner characteristics and learning via text, voice, and audio/video channels, thus having an opportunity to express themselves in different formats. According to Rovai (2007), this approach of using different modes of communication in introductory forums promoted social connectedness and student community building. Such classroom activities could help create a stronger community, which was low in both course types in this research study. Lastly, as previously stated, community plays an important role in increasing a sense of connectedness among learners. Rovai (2002) defined four main elements of virtual learning community, which he believed were important in establishing positive connections among student peers and an instructor. The four elements were: spirit, trust, interaction, and learning. Therefore, instructional design activities that foster any of these elements have the potential to strengthen sense of connectedness or belonging for students participating in online and hybrid courses. The finding from this study suggest there is room for improvement in helping students feel more connected.

Besides the quantitative findings, there are some interesting discoveries from the focus group responses as well. Here, collaboration and support, the main characteristics of connectedness, greatly influenced the experiences reported by both online and hybrid students. Some online students reported feeling disconnected, which could relate to feelings of isolation and loneliness as highlighted by other research in the literature (Lewis & Abdul-Hamid, 2006; Ortiz-Rodriguez, Telg, Irani, Roberts, & Rhoades, 2005). Additional research points to a creation
of online communities to enhance learning and integrate various types of students (Abdelmalak, M. M. M., 2015). Moreover, proximity and deep connections with fellow learners was a critical attribute identified in the hybrid student responses, although, some hybrid learners preferred to focus on their studies rather than on building relationships with peers. This correlates with observations from this researcher’s own experience in conducting class instruction for the past 5+ years in hybrid courses, where student veterans often focus exclusively in “fully accomplishing their mission” of passing courses and obtaining advanced academic degrees without much interactions or participation in classroom or extracurricular activities with other fellow learners. This also confirms the findings in other literature where some veteran students felt that college is a place to focus on studies instead of socializing or concentrating on developing relationships (Wheeler, 2012).

**Academic Performance Among Military Students in Online and Hybrid Courses**

For the purposes of this research study, academic performance was defined as measurement of student work in a range of A, B, C, D, and F for the final course grade. Due to institutional changes at the participation site, the researcher was only able to obtain ‘pass’ and ‘fail’ final grades of all survey participants. Findings indicated no significant difference in academic performance among military students enrolled in either online or hybrid course(s). While not statistically different, it is interesting to note that in the online courses, about 93% of students passed while about 87% passed in the hybrid courses. Perhaps, many military students select to participate in either online or hybrid course primarily to fit their learning style, attention spans and daily responsibilities of their lifestyles. Focus group responses support the role of convenience in deciding to enroll in hybrid and online courses.
Lastly, some of the reasons behind why there is no significant difference in student’s academic performance in the two modalities are the following assumptions derived from personal experiences of the researcher with military student population for more than ten years of instruction in both online and hybrid courses:

- Military learners often select course types based on convenience and how each course would affect their daily routines of work and family responsibilities and not necessarily how it will affect their academic success.
- Military learners have a specific time limit to fully take advantage of their G.I. Bill benefits before they expire or become ineligible. Thus, they sometimes register and participate in any course types that are available in order to successfully persist and complete their academic journey in order to fully take advantage of their educational benefits.
- Military learners might prefer certain course modalities, such as hybrid or online, mainly based on their professional background and training received during their military service. In other words, some prefer online courses due to their highly advanced skillset in technology use and immersion derived from their military career. On the other hand, other military learners are more comfortable with face-to-face interactions with their peers and instructor in more hybrid course environments.

Relationships Among Social Integration, Sense of Connectedness, Course Persistence, and Academic Performance Among Military Students Enrolled in Online and Hybrid Courses

The results suggest that generally no or very low (sometimes even negative) correlations existed among the variables with no correlations being statistically significant. Social integration and sense of connection were moderately correlated for both groups which would be expected as
the scales measure similar concepts. Also, for the online group, there was a low correlation \((r=0.35)\) between senses of connection and academic performance. These findings are not surprising given the low levels reported by students in both groups in terms of their sense of social integration and sense of community.

Findings from the focus group indicated student considered interaction to be an important factor in overall course satisfaction among the online military learners, however, they also reported feeling neglected by limited or even nonexistent interaction from their instructor.

Perhaps, the low levels of social integration and sense of connectedness reported by participants in this research study might be attributed to the lack of instructor understanding of what online and hybrid military learners desire in terms of interaction in such courses. As Bawa (2016) pointed out, student and instructor perceptions about how an online course should be structured are quite different. Such a gap in perspectives highlights a growing struggle of instructors to actively engage a variety of learners in online settings as well as to maintain an interconnected learning environment that can be compared to traditional face-to-face teaching models (Bawa, 2016). Thus, in some cases, instructors might feel apathetic in recognizing student emotions and feelings, which can lead to overall feeling of disconnectedness instead of having inclusive and learner-centric course environments (Muirhead, 2004; Tallent-Runnels, Thomas, Lan, Cooper, Ahem, Shaw, and Liu, 2006). This sense of disconnection could not only affect student’s social integration and being connected to their peers and instructor, but it could also affect their overall academic performance in a class.

Past research also described aspects of engagement, motivation, and autonomy that influence persistence and academic achievement among students in online and hybrid courses (Finn & Zimmer, 2012, Schunk & Mullen, 2012). As Lee et al. (2015) stated: “Students’ motivation is translated into engagement where students not only have the desire to participate,
but also actively participate in learning tasks. (p.55)” The highest level of motivation is student autonomy, which is an important element of self-regulated online learning environment. This finding also confirms what we already know about the characteristics of adult learners, as they often seek opportunities for learning as independent students. Therefore, instructors in online courses should focus more on creating learning activities that enable students to feel a sense of ownership, being actively engaged, and taking responsibility for their own learning progression. In other words, online instructors should perhaps see themselves more as mentors or facilitators rather than traditional instructors in online course environments in order to help guide adult learners, such as student veterans, through their self-directed learning. Perhaps, giving nontraditional students an opportunity to work on real-world scenarios, or being engaged in specific career-related projects, might promote social collaboration and increased sense of community among such learners in such types of classes. This could lead to achieving higher persistence rates and improved academic performance.

Research about hybrid or blended courses depicted more successful transfer of learning control to students compared to online environments; therefore, it might be easier for adult learners in hybrid class mode to apply their own ways of studying class materials instead of only relying on the instructor’s method of teaching (Rose and Ray, 2011; Snow, 2016). Still, an opportunity exists for learners in hybrid courses to have access to instructor intervention and face-to-face support, if needed, as highlighted in prior research by Ayala (2009). This was also evident in the responses from the focus group in this study, where the students in hybrid environment highlighted the importance of learning independence, faculty proximity, and preference for face-to-face interactions with peers to feel supported.

Lastly, based on participants’ responses in both quantitative and qualitative findings, this research suggests a lack of, and subsequently, a strong need for having a learning community
and sense of belonging in both course modalities. This is not surprising since Coole and Watts (2009) posited that e-learning components can support development of learning community, which in turn is often cited to be an important indicator of persistence and social integration (Astin 1984; Rovai, 2002; Tinto, 2012). However, as McAuley and Walton (2011) suggested, it is often not technology itself that is the issue of learner disengagement, academic performance or overall persistence in hybrid courses, but rather how technology is being used to create a sense of connection among adult learners. The researchers call for the use of more flexible discussion tools in hybrid modalities to support sharing ideas by the adult learners more freely, rather than incorporating rigid hierarchical discussion forums in traditional LMS systems (McAuley & Walton, 2011) Thus, students in this study might have felt that technology tools used in their online or hybrid courses may not have been the most suitable tools to allow flexible and authentic communication with their peers and instructor, thus, causing low levels of social integration and sense of connectedness as noted in the research findings.

**Predictors of Persistence and Academic Performance of Military Students in Online and Hybrid Courses**

As indicated by the results of the regression analysis, only one variable, sense of connectedness, was statistically significant in terms of predicting the academic performance (grade) among the military students in online courses. This aligns with the correlational findings in the previous section. In other words, the higher the sense of connectedness among military learners in this study, the better the prediction of academic performance in the online course modality. This predictive relationship was not evident in the hybrid courses; however, the power of the test was limited by the much lower number of students enrolled in the hybrid courses. In fact, this difference in respondents (112 for online versus 32 for hybrid) could also have
contributed to the lack of statistical difference in other tests. Or, the low levels of either social integration or sense of connection in either modality could account for the general lack of statistically significant findings.

Sarason (1974) defined sense of connectedness as: “A part of a readily available, mutually supportive network of relationships upon which one could depend, and as a result of which, one did not experience sustained feelings of loneliness.” As past literature research suggested, some online learners report feeling lonely or not being able to properly connect with other fellow learners as well as the instructor, which often leads to the feeling of “lost in cyberspace” (El Mansour & Mupinga, 2007). Comments, such as “I did not feel as part of the class” or “With online classes, it is hard to be able to get that whole personal thing” highlight the importance of sense of connectedness in online course environments. This is also supported by looking at the qualitative responses from the focus group respondents, where a larger percentage of students’ negative experiences were expressed for online courses in terms of limited, if any, sense of connectedness with peers and faculty members.

**Interpretation of Findings**

The literature review emphasized the challenges of student veterans acclimating to less structured learning environment of college classroom after experiencing the hierarchical environment of the military. These types of challenges sometimes lead to student struggles and non-persistence in their academic journey (Borsari, Yurasek, Miller, Murphy, McDevitt-Murphy, Martens, Darcy, and Carey, 2017). Veteran learners may struggle to become effective students in classrooms with different instructors where the approach to teaching, grading, and homework requirements is often unique and changes from course to course, unlike most military training, which is generally standardized in its curriculum structure and delivery in a classroom (Blaauw-
The literature supports the importance of social integration and sense of connectedness with other peers and instructors in order to persist and academically succeed in both online and hybrid course modalities (Durdella & Kim, 2012). While the quantitative findings indicated that students generally perceived low levels of social integration and connectedness in both course modalities, focus group results would suggest students desired deeper interactions with other students and with the instructor to feel as a part of the community. Additionally, literature supports the notion that better social integration and connection could improve academic outcomes such as persistence and grades. Results from this study showed room for improvement in terms of persistence with nearly 30% of students not persisting. Thus, while no significant differences were found between the two groups, findings suggest a need to perhaps consider integrating instructional strategies in both course approaches to enhance students’ feelings of social integration and connection and potentially improve outcomes.

Findings also suggest that a place to start would be to enhance students’ sense of connectedness as that was the only variable to show some predictive capacity related to academic success (passing or failing). While students felt comfortable in both environments and felt they could share and communicate in a safe environment, opportunities for interaction and collaboration and intentional building of community seemed limited or non-existent.

**Implications for Theory and Connection to the Conceptual Framework**

Chapter 2 included descriptions of several theories related to student persistence, such as Strayhorn’s Sense of Belonging Theory, Tinto’s Student Integration Model and Bean and Metzner’s Adult Student Persistence Model, as well as the definitions of social integration and sense of connectedness. Based on the literature review, Bean and Metzner’s Adult Student Persistence Model (1985) was used as theoretical base for this research study because social
integration is one of its main components. How the results and findings discovered in this research study fits with that theory and with the overall conceptual framework is discussed in the following sections.

**Bean and Metzner’s Adult Student Persistence Model Connections**

Unlike other major theoretical frameworks about student persistence, Bean and Metzner’s model primarily focused on the importance and role of experiences of non-traditional students in an academic environment, and how background, environmental, and social integration variables affect the student’s intent to persist or leave the institution. When comparing the results of this study with Bean and Metzner’s Adult Student Persistence Model, similarities and differences exist. While the qualitative results of this research study suggested that social integration and the quality of interactions among students and faculty and student themselves were important factors of their classroom experience, the military students in this study also placed increased emphasis and desire to connect more deeply with their instructor and peers via interactive and collaborative activities, which would also increase their sense of connectedness of becoming an important part of the online or hybrid community of learners. The role of social integration and satisfaction with peer interactions and support from the faculty was emphasized in this study more in the qualitative findings, while the quantitative findings suggested levels of social integration and connection were fairly low in both modes. Understanding of unique military student perspectives and their experiences, and how those experiences could be used in the learning process should become a focus for academic institutions when designing online or hybrid classrooms in order to help these nontraditional students to persist and succeed academically.
Study Conceptual Framework Connections

The conceptual framework in this study suggested that strategies in online and hybrid courses would lead to students feeling socially integrated and connected, with higher levels of social integration and connectedness leading to higher persistence and academic success. For both groups, however, survey responses indicated fairly low levels of social integration and connection and persistence rates were lower than optimal. Based on the connections displayed in this study’s conceptual framework (Figure 5-1 below), administrators and instructors might consider restructuring their current approach of building online and hybrid courses by having the needs and characteristics of nontraditional students in mind as well as creating more opportunities for sharing their experiences via practical problem-solving learning, scenario-based activities or peer-to-peer learning to increase student motivation and the willingness to persist by feeling valued, connected, and appreciated by their learning community.

![Study Conceptual Framework](image)

**Figure 5-1. Study Conceptual Framework**

The researcher had thought perhaps the hybrid course mode would have higher social integration and connection because of the face-to-face component. While the quantitative data did not support this, the qualitative findings did indicate that the hybrid group felt more
connected. Perhaps, it is easier to achieve social integration and sense of connectedness in hybrid course formats compared to online courses due to face-to-face interactions among student peers and faculty. However, knowing what specific relationship pathway is important for military students in both course modalities, in terms of how they prefer to interact and socialize in a classroom. Understanding those preferences might help students successfully transition from structured military environments into their academic lives by feeling supported, guided, and appreciated by their larger environmental context of academia.

**Implications for Pedagogical Practice**

Today, a growing number of colleges and universities across the country are realizing the importance of better understanding the individual needs of nontraditional students, such as the military learners, as well as their unique student profile in order to help them persist and thrive academically in their respective fields of study. Military students also are increasingly taking advantage of alternative course delivery modes such as online and hybrid courses.

The results of this research study suggest that regardless of what type of course modalities are offered to military learners, it is important to consider ways to establish a learning atmosphere with social connections among students themselves and between the learner and the instructor. The *need to belong, to stay connected, and feeling supported* along the journey of learning are attributes that institutions might incorporate into their classroom structure in order to help this type of nontraditional student succeed when they transition from the military careers into civilian life. There are specific strategies that academic institutions could consider in order to increase social integration and sense of connectedness in both online and hybrid courses. First, additional time for personal classroom interaction, such as non-graded discussion forums or social media groups, might be included in the curriculum structure for both modalities to help
students form deeper bonds and get to know one another as suggested by Ismail (2013). As we already know, student veterans come from environments where teamwork and a communal identity are paramount when it comes to training and execution in a battlefield (Blaauw-Hara, 2017). Thus, having opportunities to forge informal relationships during the learning process could be embedded in the formal curriculum structure in any course mode.

Secondly, many instructors believe in creating assignments for collaborative work in their online or hybrid courses under the assumption that each student has similar experiences, thus grouping them all together to collaborate. Mixing traditional and non-traditional learners such as military students might lead to an unwillingness to engage, especially by nontraditional students, who come into the classroom setting with such diverse set of experiences and knowledge from their professional environments. Perhaps, defining clear roles of collaboration and creating unique collaboration groups based on experiences might foster an increased sense of belonging among student veterans by understanding their personal experiences better, which in turn could lead to improved academic performance and increased course persistence as suggested by Blaauw-Hara (2017). Moreover, creating assignments that encourage in-depth examination of difficult issues through reading, writing, and group conversations could be encouraged among military learners since the military also does this type of learning as part of their training process. It will feel easier for them to relate to such classwork since they were accustomed to such learning for many years in their military roles (Blaauw-Hara, 2017).

Thirdly, some research points to the importance of establishing a peer group for nontraditional students entering the higher education setting after a long period of time (Blackwell-Starnes, 2018). Blackwell-Starnes (2018) also pointed out that peer groups can eliminate what is sometimes called a maturity gap between traditional and nontraditional students. It allows student veterans to establish a sense of belonging with students who possess
similar experiences, thus helping them transition into academic life and improve academic participation, especially in discussion forums acting as a catalyst.

Additionally, some researchers suggested viewing the transition from military to academic setting by student veterans as a shift between two Communities of Practice (CoP) (Lave & Wenger, 1991; Morrow & Hart, 2014; Wenger, 2010). Therefore, it could be beneficial for colleges and universities to explore these two Communities of Practice (military and academic environments) in terms of similarities and differences that affect such students in transition and to minimize their “learning shock” (Blaauw-Hara, 2017). Earlier recommendations, such as increased focus on personal classroom interaction, unique collaboration groups, and peer group opportunities are all a part of creating a community of practice where members feel safe, valued, and build relationships to support a sense of belonging. Furthermore, educators might not realize that the time spent by veteran learners in academia is transitional. We should not expect them to quickly embrace their student role by abandoning their deeply embedded prior identity of citizen-soldier (Blaauw-Hara, 2017). Therefore, specific aspects of Community of Practice can help in this regard, such as ‘brokering’ (Wenger, 2010). Brokering is used when more knowledgeable members of a community that hold similar past experiences can provide support to new members to get acquainted with the practices of such community, such as being enrolled in a new course. These experienced community members can act as “peer mentors” to student veterans to help ease their transition and being able to feel like a part of community that cares for their assimilation to the entire group of students (Blaauw-Hara, 2017). Lastly, the support derived from a strong Community of Practice can help make military learners feel as valued members who can freely share their lifelong experiences with others without being labeled as “novices” in the academic environment as traditional students are often viewed as such. Creation of such learning community in online
or hybrid courses could help military learners to feel more welcome and connected, having opportunities to formally and informally socialize with their peers and the instructor in order to create a more cooperative, safe, and supportive classroom space.

As mentioned earlier in Chapter 2, military students are considered to be a subgroup of nontraditional adult learners that share similar characteristics, needs, and roles with first-time students as well as under-represented minority groups in various educational institutions (Jenner, 2017). The findings from this research study could contribute to broader conversations about all types of nontraditional students related to their needs and how to help them succeed academically particularly in increasingly available online and hybrid delivery options. While much research has been done on traditional students and understanding the role of social integration on their campus experiences, little is known about social integration in non-traditional learning environments and with non-traditional students.

**Implications for Instructional Design (ID)**

This research study found low levels of social integration and sense of connectedness in both online and hybrid modalities. From the design aspect of setting up online and hybrid courses, here are some recommendations for faculty to incorporate in order to increase social integration and sense of belonging.

For online courses, perhaps instructors could take advantage of creating informal social spaces for students to get to know each other as well as to freely exchange ideas, thus perhaps strengthening their social bonds with one another during the semester. Online ice-breaker activities, even before the course starts, could be beneficial in creating a virtual environment where students could feel more included. Then, throughout the semester, instructor could set up an online “student lounge” or a virtual “water cooler station” so that learners could interact with
one another beyond the official course boundaries. Additionally, instructors could utilize electronic office hours more frequently to stay connected with their learners, and the course design should support connectivity to communication tools that students prefer to connect with the instructor, rather than forcing them to use standardized and often rigid messaging features built into the LMS environment, with which, students might not be familiar. Lastly, instructors in online courses could incorporate the use of visual feedback through short video clips or recordings when participating in class discussions or grading student assignments. The visual feedback could help create effective social presence because it allows them to show their emotions, be more informal compared to often rigid written grading, and it could help students feel a sense of closeness with their instructor. Students could also utilize video technology to ask questions to other peers and the instructor in a genuine conversational manner, thus possibly solidifying social ties and sense of connectedness in an online course (Coolman, 2018).

Additionally, instructors could grade student-submitted assignments with audio feedback instead of or in addition to their written responses, which could create a more personalized connection by hearing the instructor’s voice.

For hybrid courses, there are also several instructional design tools to provide opportunities for increased sense of connectedness as well as feeling to be a part of a community with deep social integration. For instance, incorporating personal profiles and photos before the official start of the class can help students get to know one another better. Instructors could ask students to share more about their social life in their profiles together with photos and videos. During each face-to-face session, a few students could introduce their digital profile to the entire class, thus creating a community of learners that know each other on a deeper, social level, rather than just on a basic academic level. Furthermore, instructors could set up discussion boards with a tag system that allows students in classroom or online environment to ask questions without the
fear of being judged of asking simple or “stupid” questions. The tag system in the digital classroom could be used to categorize responses, allowing a variety of questions to be asked, which could increase the overall participation and improve level of connection (Coolman, 2018). Additionally, instructors could also use shared digital spaces, such as Google Slides, for in-class project sharing among students, thus helping them co-create slide shows and document things together in both virtual and physical class environment. This way, everything is centralized in one digital space, making it easy for continuous collaboration between students and the instructor.

The last three ID recommendations for both online and hybrid classes are student-managed digital discussions (autonomy), gamification, and group-thinking sessions. For student-run discussions in LMS or any other digital environment, learners could propose a topic in the beginning of a semester, and an instructor would assign each learner to moderate her or his own discussion forum; therefore, providing opportunities for increased social presence throughout the semester. Secondly, gamification could be built into an instructional design where students could advance through class topics by playing short interactive games individually or in a group to master subjects during the semester, thus increasing both participation and collaboration among student peers. Thirdly, instructors could utilize digital wikis, also called collaborative content boards, for group-thinking sessions, where students and the instructor could participate to explore relevant class topics and creating digital content together (Ingle, 2019). Overall, incorporating such ID tools as mentioned above could potentially affect their academic performance in a positive way as well as help students persist in these course modalities.

In summary, the tips for instructional design and strategies mentioned earlier could be used in both online and hybrid environments and might be applicable beyond military students.
Such strategies could potentially lead to an increased sense of community among students in various learning environments and course modalities.

**Researcher’s Reflections**

Based on the researcher’s personal background in teaching military learners in both online and hybrid modalities for the past ten years, Gagne’s Nine Events of Instruction (see Figure 5-2 below) played an important factor in terms of his instructional design process for an online or a hybrid lecture structure (Gagné, 1992). Although all steps of Gagne’s model are important, in particular, the researcher considers, based on his teaching experience, three specific aspects, namely *gaining attention, stimulating recall of prior knowledge, and eliciting performance*, to be the critical components of initial student engagement in class, which might lead to better academic performance and culminating in increased student persistence in a course throughout the semester.

First, *gaining attention* seems to an important element in relation to engaging both traditional and nontraditional students in the initial stage of instruction. By using educational technologies, some examples of gaining student’s attention include digital storytelling via discussions, video clips of class content application in a real world or using a digital simulation of a real-world scenario to provide visual stimuli since many military learners are familiar with simulation-type combat training.

Second, *stimulating recall of prior knowledge* also helps nontraditional students reflect on their previous experiences by in their professional endeavors. The stimulation helps to scaffold learning, thus keeping learners engaged by providing relatable course content. Some examples of educational technologies for this step could include starting the course with a relevant problem by using a discussion forum as well as targeted self-assessment or a survey by
using digital tools to encourage reflection of the student’s prior experiences. Also, including nontraditional students in course content can be influential, at least from the researcher’s past experience, on the student’s sense of connectedness and belonging in a class. An example of this could be interviewing the learners in short video and audio segments to find out how their prior experiences resonate with the topics presented in the class and what impressions they have about the class content as it relates to their current or future job. Capturing such learner’s stories digitally and sharing them in the classroom highlights the importance of diverse perspectives and insights, thus creating an inclusive learner environment, which might eventually lead to improved academic performance and course persistence.

Third, based on the researcher’s past experiences with military students, going through a PowerPoint presentation and providing information does not equal learning. *Eliciting performance* from nontraditional learners means providing students with collaboration opportunities to better understand the content that they learn. One example of instructional technology to support eliciting performance includes asynchronous collaboration rooms for students to use throughout the semester for solving real-world scenarios together. Another example could be to create an online journal assignment to help students recall, revisit or reiterate their learning knowledge with the opportunity to digitally share it with others.

Lastly, as Figure 5-2 below shows, the researcher added one more step to the original Nine Events of Instruction by Gagné. It is because of his personal experience of more than ten years teaching the military student population that the final step of *sharing learning* is often included in his online and hybrid courses because nontraditional learners bring with them a sense of teamwork from the military, and they are often eager to share what they learned in class with their classmates. An example of instructional technology design to incorporate this step might be setting up regular teach-your-peer webinar sessions with recording capabilities to review how
effectively they shared learning with others, which might lead to an increased sense of camaraderie and supporting one another through their academic journey.

Figure 5-2. Gagne’s Events of Instruction (Gagne, 1992; modified)

Study Limitations

While the researcher supports the notion that quantitative research design was the correct choice for this study about military students, the general limitations of causal-comparative and correlational studies are recognized. In this study, one limitation was the limited number of respondents overall and in particular for the hybrid classes. The unequal sample sizes also could have contributed to the lack of statistical findings. In addition, the researcher did not anticipate students who enrolled in both online and hybrid courses in the same semester which further reduced the sample sizes to compare the online only and hybrid only groups. Lastly, the same
students could have participated in both course terms, providing data twice. This was not
accounted for in the analysis.

From the demographic data collected, it appeared that many of the students had
previously enrolled in both hybrid and online courses, which could have influenced their
responses to the questions. They may not have reflected perceptions of only the course in which
they were enrolled in that term.

The interview data was limited as well with a low number of participants and all being
volunteers. Thus, their perceptions may not have reflected those of the larger population. It is
possible that only those online students who felt particularly disconnected volunteered to
participate.

**Recommendations for Future Research**

Another quantitative study might use a larger and more diverse military learner
population, comparing various perspectives of this type of students across the United States.
More credibility could be given to this research study if combined with qualitative research, such
as a case study, in order to derive more evidence to strengthen the findings discovered using the
quantitative research approach. By examining more qualitative data from study participants, the
data from unique and subjective perspectives of military learners could be analyzed and used to
provide additional results.

Lastly, this study somewhat lacked diversity of survey participants. A broader
demographic of participants could also be an area for future research since 50 percent of all
survey respondents were Caucasians, 18.4 percent were Asian Pacific Islanders, 13.9 percent
were African Americans, 12 percent were Spanish Hispanic, 3.2 percent were Native Americans,
and only 2.5 percent self-identified as other/mixed ethnicity.
Due to the limited research on the topic of social integration and sense of connectedness and their links to academic performance and course persistence rates among military learners in distance education environment, it is recommended to conduct more research pertaining to this topic. Since the latest legislation on student veteran benefits was passed in 2009, there has not been much analysis that focused on the role of social integration among student veterans participating in online programs as well as how institutions address student challenges related to the sense of connectedness in different academic settings (Wilson, 2009). A few suggestions for future research are listed below.

Perhaps cohort programs, often touted as creating supportive learning environments, might help military students feel less isolated and could be studied. Additionally, cohort-based programs can help institutions improve persistency among their nontraditional students as social integration and group cohesiveness play important role in combating attrition rates in distance education based on the reviewed literature. However, cohorts might require constant and often regular class participation, which could be challenging to military learners due to their various roles and responsibilities as adult students.

Future studies could look more deeply into specific variables, such as institutional support or school/home environment to see how they affect course persistence and overall success of learning for the military learners. In addition, perhaps better supports could help students feel more connected generally.

Lastly, focusing on better understanding of instructional design and instructional strategies used in courses regardless of modality in future studies could shed more light on how the course design and instructor’s strategies affect overall student persistence, academic performance, and their sense of class community and social integration.
Conclusions and Summary

Learner’s course retention and academic performance in higher education is one of the most important metrics for colleges and universities to measure their effectiveness in designing learning environments, where both traditional and nontraditional learners, including student veterans, can flourish and successfully complete their academic degrees. Combined with the growing number of military learners transitioning into civilian life through education, creating such learning environments is a challenge due to unique characteristics of these types of students, who are usually older, more mature, and were trained in rigid structural hierarchies where teamwork, camaraderie, and reliance on others are essential attributes of mission success in the military.

The results of this research study indicated low levels of students perceiving social integration and sense of connectedness in both online and hybrid course modes. Thus, it appears there is a need by academic institutions to consider instructional design strategies and instructor professional development to better support students in feeling connected and that they belong in the academic setting. This may be even more critical for military students in order to help retain them and help them succeed academically. To support these important needs, instructors should be aware of andragogical principles of instruction, especially focusing on the learners’ self-concept, the need to know, and the importance of prior experiences among student veterans to help them feel valued, connected, and engaged with class content relevant to their professional advancement (Blaauw-Hara, 2017). Also, structuring the course to engage all styles of learning among military-affiliated students, using technologies such as a video introduction by an instructor, audio recordings for shared reflections, or online peer-group conversations in online and hybrid class modes could help support adult-learning principles in meaningful ways.
In summary, regardless of what course format student veterans decide to pursue in reaching their academic goals, universities should help them overcome their “learning shock” when trying to preserve their unique military identity and gradually transition into a role of an effective adult learner. This way, institutions of higher education will hopefully be able to support student veterans by offering academic environments that foster social integration and a sense of connectedness, increasing the level of persistence as well as academic success in the long run among this important student population.
REFERENCES


https://doi.org/10.1002/ss.311


Ingle, J. C. (2019, February 12). 5 terrific edtech tools for creating a highly engaging online (or hybrid) course. Retrieved November 11, 2019, from https://www.ecampusnews.com/2019/02/13/5-terrific-edtech-tools-for-creating-a-highly-engaging-online-or-hybrid-course/


on September 30th, 2019 from https://news.syr.edu/blog/2018/08/14/nontraditional-students-like-vets-face-unique-challenges-heading-back-to-school/


New York, NY: Oxford University Press.


Rovai, A. (2002). Building sense of community at a distance. International Review of Research in Open and Distance Learning, 3(1), 1-16.


Russo-Gleicher, R. J. (2013). Qualitative insights into faculty use of student support services with online students at risk: Implications for student retention. *Journal of Educators Online, 10*(1), 1-32.


https://doi.org/10.1080/07377363.2014.872007


Snow, K. (2016). Opting in or opting out: The role of hybrid learning course design on student persistence decisions in an indigenous pre-nursing transitions program. *International Journal of E-Learning & Distance Education/Revue internationale du e-learning et la formation à distance, 31*(1).


Chicago, IL: The University of Chicago Press.


Appendix A: The Research Survey Instrument

A Survey of Social Integration and Sense of Connectedness in Online and Hybrid Courses and Their Influence on Persistence Rates among Military Students

Eduard Marc, PhD Student, LTEC Program, UH Manoa Campus

* Required

1. Email address *

Part 1: Demographic Information
Please, describe yourself by selecting the appropriate options below. Thank you!

2. What is your gender? *
   Mark only one oval.
   - Female
   - Male

3. What is your race/ethnicity? *
   Mark only one oval.
   - African-American
   - Asian/Pacific Islander
   - Caucasian
   - Native American
   - Spanish/Hispanic
   - Other: __________________________

4. How many online courses have you taken so far? (All class activities are done in online environment) *
   Mark only one oval.
   - 1 online course
   - 2 online courses
   - 3 online courses
   - 4 online courses
   - 5 or more online courses
5. How many hybrid courses have you taken so far? (Majority of class activities are done online, but some are done in face-to-face sessions)
   *Mark only one oval.
   - 1 hybrid course
   - 2 hybrid courses
   - 3 hybrid courses
   - 4 hybrid courses
   - 5 or more hybrid courses

5. What is your approximate Grade Point Average (GPA)?  *Mark only one oval.
   - A-4.0
   - B-3.0
   - C-2.0
   - D-1.0
   - F-below 1.0
   - Unknown or just started college

7. How long have you been attending this university? (persistence)  *Mark only one oval.
   - One Semester
   - Two Semesters
   - Three Semesters
   - Four Semesters
   - Five Semester or More

Part 2: Survey Questions
Following is a list of statements characterizing various aspects of academic and social life at Hawaii Pacific University (HPU). Using the scale on the bottom of each of the statements, please indicate the extent of your agreement or disagreement with each statement, as it applies to your experience during your most recent classes at this academic institution by checking the appropriate box next to the appropriate multiple choice.

Please check ONLY ONE box for each statement.
Mahalo!

Interaction and Collaboration
8. I work with others in my online courses. *
   Mark only one oval.
   ○ Strongly Agree
   ○ Agree
   ○ Not Sure
   ○ Disagree
   ○ Strongly Disagree

9. I relate my work to others’ work in my online courses. *
   Mark only one oval.
   ○ Strongly Agree
   ○ Agree
   ○ Not Sure
   ○ Disagree
   ○ Strongly Disagree

10. I share information with other students in my online courses. *
    Mark only one oval.
    ○ Strongly Agree
    ○ Agree
    ○ Not Sure
    ○ Disagree
    ○ Strongly Disagree

11. I discuss my ideas with other students in my online courses. *
    Mark only one oval.
    ○ Strongly Agree
    ○ Agree
    ○ Not Sure
    ○ Disagree
    ○ Strongly Disagree

12. I collaborate with other students in my online courses. *
    Mark only one oval.
    ○ Strongly Agree
    ○ Agree
    ○ Not Sure
    ○ Disagree
    ○ Strongly Disagree

Community
https://docs.google.com/forms/d/1E5ehVf63-UxN5Of6-c9DH61p0-W5688235914/1a1'o/edit?c=3&k=1&no_redirect=true
13. I have gotten to know some of the faculty members and classmates well. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

14. I feel emotionally attached to other students in my online courses. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

15. I can easily make acquaintances in my online courses. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

16. I spend a lot of time with my online course peers. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

17. My peers have gotten to know me quite well in my online courses. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree
18. I feel that students in my online courses depend on me. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

Comfort

19. I feel comfortable in the online learning environment provided by my program. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

20. I feel my instructors have created a safe online environment in which I can freely express myself. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

21. I feel comfortable asking other students in online courses for help. *

Mark only one oval.

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree
22. I feel comfortable expressing my opinions and feelings in online courses. *

Mark only one oval.
- [ ] Strongly Agree
- [ ] Agree
- [ ] Not Sure
- [ ] Disagree
- [ ] Strongly Disagree

23. I feel comfortable introducing myself in online courses. *

Mark only one oval.
- [ ] Strongly Agree
- [ ] Agree
- [ ] Not Sure
- [ ] Disagree
- [ ] Strongly Disagree

24. If I need to, I will ask for help from my classmates. *

Mark only one oval.
- [ ] Strongly Agree
- [ ] Agree
- [ ] Not Sure
- [ ] Disagree
- [ ] Strongly Disagree

25. I have no difficulties with expressing my thoughts in my online courses. *

Mark only one oval.
- [ ] Strongly Agree
- [ ] Agree
- [ ] Not Sure
- [ ] Disagree
- [ ] Strongly Disagree

26. I can effectively communicate in online courses. *

Mark only one oval.
- [ ] Strongly Agree
- [ ] Agree
- [ ] Not Sure
- [ ] Disagree
- [ ] Strongly Disagree

Interactions
27. Since coming to this university I have developed close personal relationships with other students. *
   Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

28. The student friendships I have developed at this university have been personally satisfying. *
   Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

29. My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values. *
   Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

30. My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas. *
   Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

31. It has been difficult for me to meet and make friends with other students. *
   Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree
32. Few of the students I know would be willing to listen to me and help me if I had a personal problem. *

Mark only one oval.

☐ Strongly Agree
☐ Agree
☐ Not Sure
☐ Disagree
☐ Strongly Disagree

33. Most students at this university have values and attitudes different from my own. *

Mark only one oval.

☐ Strongly Agree
☐ Agree
☐ Not Sure
☐ Disagree
☐ Strongly Disagree

Interactions with Faculty

34. My non-classroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes. *

Mark only one oval.

☐ Strongly Agree
☐ Agree
☐ Not Sure
☐ Disagree
☐ Strongly Disagree

35. My non-classroom interactions with faculty have had a positive influence on my intellectual growth and interest in ideas. *

Mark only one oval.

☐ Strongly Agree
☐ Agree
☐ Not Sure
☐ Disagree
☐ Strongly Disagree

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36. My non-classroom interactions with faculty have had a positive influence on my career goals and aspirations. *
   Mark only one oval.
   ○ Strongly Agree
   ○ Agree
   ○ Not Sure
   ○ Disagree
   ○ Strongly Disagree

37. Since coming to this university I have developed a close, personal relationship with at least one faculty member. *
   Mark only one oval.
   ○ Strongly Agree
   ○ Agree
   ○ Not Sure
   ○ Disagree
   ○ Strongly Disagree

38. I am satisfied with the opportunities to meet and interact informally with faculty members. *
   Mark only one oval.
   ○ Strongly Agree
   ○ Agree
   ○ Not Sure
   ○ Disagree
   ○ Strongly Disagree

Faculty Concern for Student Development and Teaching

39. Few of the faculty members I have had contact with are generally interested in students. *
   Mark only one oval.
   ○ Strongly Agree
   ○ Agree
   ○ Not Sure
   ○ Disagree
   ○ Strongly Disagree
40. Few of the faculty members I have had contact with are generally outstanding or superior teachers. *
   *Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

41. Few of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students. *
   *Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

42. Few of the faculty members I have had contact with are interested in helping students grow in more than just academic areas. *
   *Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

43. Few of the faculty members I have had contact with are genuinely interested in teaching. *
   *Mark only one oval.
   - Strongly Agree
   - Agree
   - Not Sure
   - Disagree
   - Strongly Disagree

Thank you for taking my survey!

If you have any additional questions, please contact me at emerc@hawaii.edu. Aloha!

- Send me a copy of my responses.
Appendix B: Student Consent Form

University of Hawai‘i
Consent to Participate in a Research Project
Eduard Merc, Principal Investigator
Project title: The Role of Social Integration and Sense of Connectedness in Online and Hybrid Courses and Their Influence on Persistence Rates among Military Students

Aloha! My name is Eduard Merc and you are invited to take part in a research study. I am a graduate student at the University of Hawai‘i at Mānoa in the Department of Learning Design and Technology. As part of the requirements for earning my graduate degree, I am doing a research project. The purpose of my project is to examine the effects of online and hybrid academic courses for military students on their social integration, sense of connectedness, persistence rates, and academic performance. I am asking you to participate because you are at least 18 years old, classified as a military student currently enrolled in either online or hybrid (or both) undergraduate courses at Hawaii Pacific University (HPU).

Project Description – Activities and Time Commitment: If you decide to take part in this project, you will be asked to fill out a survey. The survey questions are mainly multiple choice. However, there will be a few questions where you may add an open-ended response. The survey is accessed on a website to which I will provide you with a link. Completing the survey will take approximately 30 minutes. I expect around 80 people will take part in this project.

Benefits and Risks: There will be no direct benefit to you for taking part in this project. The findings from this project may help create a better understanding of the role of social integration and sense of connectedness among the military students trying to persist in their online and/or hybrid courses. There is little risk to you for participating in this project.

Confidentiality and Privacy: I will not ask you for any personal information, such as your name or address. Please do not include any personal information in your survey responses.

Voluntary Participation: You can freely choose to take part or not take part in this survey. There will be no penalty or loss of benefits for either decision. If you do agree to participate, you can stop at any time.

Questions: If you have any questions about this study, please call or email me at (435)200-4822 or emerc@hawaii.edu. You may also contact my graduate advisor, Dr. Christine Irvine, at (808)956-7671 or sorens@hawaii.edu. You may contact the UH Human Studies Program at (808)956-5007 or uhirb@hawaii.edu, to discuss problems, concerns and questions; obtain information; or offer input with an informed individual who is unaffiliated with the specific research protocol. Please visit https://www.hawaii.edu/researchcompliance/information-research-participants for more information on your rights as a research participant.

To Access the Survey: Please go to the following web page: http://www.hpu.blackboard.com, and click on the survey link found on the bottom right side of the web page in the survey area segment. You should find a link and instructions there for completing the survey. Going to the first page of the survey will be considered as your consent to participate in this study.

Please print a copy of this page for your reference. Mahalo!
Appendix C: Research Site Support Letter

February 16th, 2017

To Whom It May Concern:

This letter serves as acknowledgement of support of Eduard Merc’s proposed research at Hawaii Pacific University. We are interested in learning from his exploration of “The Role of Social Integration and Sense of Connectedness in Online and Hybrid Courses and Their Influence on Persistence Rates among Military Students” and will do what we can to support his research.

We are eager and willing to facilitate the administration of Mr. Merc’s survey instrument to our students while ensuring all appropriate steps are taken to protect them and their families as the IRB would require.

We hope that you can look favorably on his IRB application so that he can progress with his research in the spring semester of 2017.

If you have any questions, please do not hesitate to contact me at: (808)543-8046.

Aloha,

[Signature]

Mani Sehgal
Interim Dean, College of Extended and Interdisciplinary Education
Director, School of Education
Hawaii Pacific University
1164 Bishop Street, Suite 500
Honolulu, HI 96813
Phone: (808) 543-8946