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Best forms of involvement for first-year student veterans for academic success

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BEST FORMS OF INVOLVEMENT FOR FIRST-YEAR STUDENT VETERANS
FOR ACADEMIC SUCCESS

Saipraseuth Chaleunphonh

173 Pages

May 2015

This study expands the research for the transition of student veterans utilizing the Post-9/11 G.I. Bill enacted in 2008. It presents a quantitative approach to study the relationship between first-time, full-time student veterans and their non-veteran student counterparts in the area of transition to college life and academic success in the first-year of college. The results of the study contribute to the efforts of campus professionals to coordinate services and direct resources to better serve and increase the academic success of this population. Using secondary data, the study examines financial stress, prior learning experience, psychological/physical health, skills gained or lost, and student involvement in relationship to academic success. Additionally, the study compares first-year student veterans with comparison groups: traditional, first-generation, and non-traditional first-year students. Finally, the study identifies what forms of student involvement work best for student veteran academic success and what pre-entry attribute or skill most influences academic success. The study also explores differences between student veterans from public/private institution types and commuter/residential status.

BEST FORMS OF INVOLVEMENT FOR FIRST-YEAR STUDENT VETERANS
FOR ACADEMIC SUCCESS

SAIPRASEUTH CHALEUNPHONH

A Dissertation Submitted in Partial
Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

Department of Educational Administration and Foundations

ILLINOIS STATE UNIVERSITY

2015

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BEST FORMS OF INVOLVEMENT FOR FIRST-YEAR STUDENT VETERANS
FOR ACADEMIC SUCCESS

SAIPRASEUTH CHALEUNPHONH

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S. C.

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CHAPTER I

INTRODUCTION

Overview of the Study

President Franklin Roosevelt addressed Congress saying, “We have taught our youth how to wage war: we must also teach them how to live useful and happy lives in freedom, justice, and democracy.” Mettler (2005) describes the recognition of our soldiers as citizens the way George Washington idealized the volunteer army as made up of citizen soldiers who take arms when needed, reflecting the post-World War II generation of student veterans. They set their firearms down, Mettler notes, and took up coursework when needed to lead our society. The post-9/11 generation of veterans have been given the same call to enter postsecondary education through the Post-9/11 “General Issue” (G.I.) Bill.

This study helps prepare colleges, universities, and major stakeholders of student veteran services for the increasing number of student veteran population. With the enactment of the Post-9/11 G.I. Bill in 2008, over two million student veterans were expected to enroll in American colleges and universities after separating from active duty in conflicts in Iraq and Afghanistan (Student Veterans of America, 2009). Student veterans have been entering colleges at 4-year and 2-year institutions, and private and public institutional types. This phenomenon has reflected the historical influence of the G.I. Bill since the original, Servicemen’s Readjustment Act of 1944, on the mass higher

education era and broader opportunities to access higher education for all. The study explores variables of pre-entry attributes, skills gained or lost, and student involvement from the literature and their relationship to academic success for student veterans in comparison to nonveteran students during the first year of college. Given the complexity of the conceptualization of persistence, the study will also consider that student veterans present characteristics similar to first-generation and non-traditional students, also comparing the analysis of independent variables for these additional nonveteran groups. Specifically, research on the effects of pre-entry attributes, skills gained or lost, and student involvement during transition to college better informs campus professionals and educational leaders about the best forms of involvement for academic success. The research design methods and data collection strategies are described for this study. Finally, the findings and implications for research are reported.

It is necessary to study this emerging special population more closely to promote higher completion rates, provide faculty and professional staff with the strategies necessary for effective support programs, and to address academic and social transitional needs that impact this group's persistence and academic success. Educational leaders and campus professionals must work together to organize and prioritize effective initiatives to support the success of student veterans. Additionally, the findings of this study can be incorporated into decision making processes for institutions to better reallocate resources.

Key Terms and Definitions

The literature uses two key terms, persistence and retention, in discussing the phenomenon of student attrition. Seidman (2005) defines **persistence** as “the desire and action of a student to stay within the system of higher education from beginning year

through degree completion” (p. 7). Many institutions track enrollment from one semester to the following semester. For the purpose of this study, we measure persistence through academic success, or first semester grade point average. **Retention** is defined as “the ability of an institution to retain a student from admission to the university through graduation” (p. 7). When a student departs from the university, it is considered student attrition. It is important to understand that the first term leads one to understand the student characteristics that influence the actions of the student. The latter term implies the need to evaluate support structures within the university to help the student succeed. In other words, one can see persistence and retention as addressing student commitment and institution commitment, respectively. Understanding both the level of commitment from the student to persist and the level of institutional commitment to support the retention of the student are necessary to develop and implement strategies for student veteran academic success.

Additionally, the terms **pre-entry attributes** and **involvement** will be used often throughout this study. **Pre-entry attributes** are personal characteristics of a student that are present before he or she enters college for the first time (Tinto, 1993). However, it should be noted that Tinto’s research identifies primarily attributes of traditional students, who go directly to college from high school. Astin (1993) describes **involvement** as both student-to-student social interactions, student-to-student academic interactions, and student-faculty interactions.

History of the G.I. Bill

The Post-9/11 “General Issue” Bill (“G.I.” is also a slang term used for soldiers) followed other legislation that have been enacted after major American conflicts. After

World War II, the United States welcomed home our heroes who experienced combat, world travel and witnessed atrocities never before seen in modern times. America began by acting on the lessons learned after World War I about providing better support for veterans and the budget constraints brought on by the previous pension system for military service. There was fear of a radicalized postwar America, a return to a depression and high unemployment, and the rise of other totalitarian regimes around the world. Prior to World War II, only 1 out of 16 Americans went to college (Greenberg, 2008). The G.I. Bill could have resembled another post-war general unemployment compensation program to address the issue of mass return of veterans. “The main motivation of the G.I. Bill was the provision of jobs for veterans when they returned to civilian life” (Alschuler & Blumin, 2009, p. 73). Fortunately, the end of wartime government controls on domestic production ushered in an era when businesses expanded and deferred spending on automobiles, homes, and appliances. This ignited economic growth and promoted advanced education to increase productivity.

Before the original G.I. Bill, going to college represented something for the elite or aristocratic class. Daniel Clark (1998) provides artifacts from the media that depicted college after the Servicemen’s Readjustment Act of 1944 was adopted. He points out that only a few people looked to attend college before World War II, reflected in literary stories and advertisements. The way college student characters dressed and their social background reflected more of the elite class. The influx of student veterans through the Servicemen’s Readjustment Act of 1944 drastically changed the public perception of college. The notion that the college student can be the average person emerged. If nothing else, Clark claims that the original G.I. Bill, at least, accelerated the perception of

college education as a way for Americans to raise their own stature. The self-made, self-educated American that once served as the icon of the American Dream was replaced by Joe Veteran, romanticized through media as the icon for social, economic, and cultural mobility.

From 1945-1975, college student enrollment grew from 2 million to 11 million. Cohen and Kisker (2010) report that “anyone who did not want to attend college was considered misguided and in need of special encouragement” (p. 209), reflecting on the widely accepted postsecondary option. It was no longer a selective admissions system by 1945 but the beginning of a mass higher education era. Enrollments, finances, and institutions expanded. The aid of the Servicemen’s Readjustment Act of 1944 prevented the predicted mass unemployment due to millions of soldiers being demobilized. The benefits provided for veterans included unemployment insurance, medical care, counseling, and tuition and expenses. Each veteran received at least one year of schooling and an additional month-for-month for active duty. Nearly half of the 15 million veterans participated and went to college or on-the-job-training programs. Higher education enrollment ended up doubling since 2 million attended over the following 6 years. College was no longer reserved for the elite.

Mettler (2005) studied the impact of the Servicemen’s Readjustment Act of 1944 on a generation of World War II veterans. Veterans, who were treated as first-class citizens and granted advanced education, were inspired to become active participants in society. The Servicemen’s Readjustment Act of 1944 produced a civic renaissance; veterans had higher levels of civic participation in such groups as: Masons, Elks, Moose, United Methodist Women, Order of Eastern Star, Lions, Kiwanis and Rotary. The

Servicemen's Readjustment Act of 1944 communicated to veterans that government was for and about people like them. Veterans learned to excel in the system or join others to fight the system. The Servicemen's Readjustment Act of 1944 users had a penchant to trust government and become engaged in it, helping others.

Mettler (2005) discusses results of her survey study indicating 54% of veterans could not afford college without the Servicemen's Readjustment Act of 1944. Seventy-five percent of veterans report that they would have taken longer to obtain their degree without the benefits. The Servicemen's Readjustment Act of 1944 was created to serve a limited purpose for a specific population of veterans. Congress and the President figuratively and literally underestimated the use and reach of the Servicemen's Readjustment Act of 1944. It was primarily seen as a short-term bill to provide unemployment benefits for a returning veteran's first year to adjust to civilian life in the American culture. However, millions of veterans went to college and 70% of returning veterans found employment.

Inspired by the success of the original G.I. Bill, the U.S. government continued to provide similar benefits for military veterans following subsequent military conflicts. Such acts continue to be known collectively as the G.I. Bill, and represent modifications or enhancements to the original government program established in 1944. The Veterans Readjustment Assistance Act of 1952 provided for veterans returning from the Korean War and the Veterans Readjustment Benefits Act of 1966 and the Post-Vietnam Era Veterans' Educational Assistance Act of 1975 supported service men who served during the Cold War and Vietnam War, respectively. Later, other G.I. Bill benefits implemented a "lump sum" type of educational benefit that introduced finances as a factor to enter

college as well as choice of college. The Veterans Educational Assistance Act of 1984, or Montgomery G.I. Bill, addressed an education program where veterans, from 1976-1985, could voluntarily make monthly contributions toward a matching benefits program (Radford, 2009).

U.S. colleges and universities could not adequately serve this mass influx of students without expanding their campuses and founding new institutions. By 1975, more than 600 additional public institutions were established; over 80% were community colleges reaching 5 million students and 325 net private colleges were added. Established institutions developed branch campuses. Normal schools were converted to state colleges and single-sex institutions became co-ed.

The transition from elite to mass higher education, attributed to the results of veteran educational benefits, changed public thinking about access to higher education, and the government's role in fostering access. State and federal grant and loan programs were developed to address the low enrollment patterns and students with low family income. Access for women, people with disabilities, and ethnic minorities began to get addressed as well through an array of institution-based and government sponsored programs (Cohen & Kisker, 2010). The Civil Rights Act of 1964, the Higher Education Act of 1965, and the American with Disabilities Act of 1973 greatly benefited the welfare of veterans in higher education and beyond.

The most recent veteran educational assistance act continues to build upon the G.I. Bill legacy. The Post-9/11 Veterans Educational Assistance Act of 2008 has more generous benefits than other G.I. Bill benefits since 1944 that help make college financially more affordable for recent military undergraduates. In general, student

veterans are provided with tuition benefits equivalent to the highest, in-state public institution tuition along with other benefits such as housing expenses and book costs. However, the full amount of the benefits is linked to the period of active duty served, providing longer-serving veterans with richer benefits. Student veterans focus on less expensive institutions, often public, since benefits limitations do not cover the full cost of more expensive institutions. Benefits have made student veterans 15% more likely to attend full-time (Radford, 2009).

For student veterans returning from military service to civilian life, their educational attainment influences their social mobility and lifetime earnings. In 1975, before the Post-Vietnam Era Veterans' Educational Assistance Act, the average annual earnings of someone with a bachelor's degree was 1.5 times more than someone with a high school diploma. By 1999, that number discrepancy rose to 1.8 times more in annual earnings for someone with a bachelor's degree than someone with a high school diploma. Based on a 40-year work life earnings estimate, workers with bachelor's degrees earn almost one million dollars more than someone who has a high school diploma, \$2.1 million versus \$1.2 million (Day & Newburger, 2002). The G.I. Bill has a history of stimulating the economy through increased jobs, unemployment rates, incomes, lifetime earnings, industry, homeownership, educational attainment, and consumer spending (Altschuler & Blumin 2009; Greenberg, 2008; Breedin, 1972).

G.I. Bill's Effects on Access

Altschuler and Blumin (2009) discuss the findings of the 1947 Truman Commission report for *Higher Education in American Democracy*. Primarily, they assert that it was recommended that free and universal access to education should be a goal of

the nation. Federal legislation to end discrimination based on race, ethnicity, gender, and income was called for as well as encouraging states to have a master plan for a university system structure. The increased enrollments prompted colleges and governments to work together in planning expanded facilities and enrollment models to serve as many students as possible and as efficiently as possible.

Through the opportunities of the G.I. Bill across the past three generations, the elite veil of higher education has been lifted. The growth of public higher education, through the Higher Education Act of 1965, provides a means for all Americans to achieve upward mobility through education attainment. The Americans with Disabilities Act of 1973 and proceeding legislation increase access for students with physical and invisible disabilities to educational opportunities. Higher education continues to be an integral part of our democracy. Since 1970, college enrollment has increased from 8.6 million to 18.2 million in 2007 (National Center for Education Statistics, 2009).

By 1993, Cohen and Kisker (2010) state that the American higher education system had evolved into “a stage of diversity, complexity, and comprehensiveness” (p. 329) since the colonies were formed. Adult students were helped by the Age Discrimination Act of 1975 and the 1978 *Purdue v. University of Utah* case. In 1972, Pell Grants began to provide more financial aid for older students. In 2005, one-fourth of people over 25 years old took some type of postsecondary course.

Over the last 35 years, the focus on equal opportunity and access has opened the doors of higher education to more and more members of our society. As a result, the college student pool has increased in diverse students and students from lower socioeconomic status due to increases in financial aid. Colleges continuously attempt to

remove or reduce academic, attitudinal, and economic barriers (Cohen & Kisker, 2010). With the Post-9/11 G.I. Bill, the immediate student veteran financial barriers for postsecondary education attainment is being addressed for veterans. Colleges can be supportive by helping student veterans cope with additional financial stress of family and work obligations.

Many Americans now see a college education as a right rather than a privilege. In order to continue to increase the quality of higher education, different types of institutions have been established to serve students with varying abilities and educational goals. Institutions for developmental education and vocational training, that serve G.I. Bill users well, are included in this spectrum. College, during hard economic times, are used as part of a system to retool or up-skill workers to increase productivity.

Public funding continues to be a major barrier in the assistance for education attainment. Veteran benefits directly address this need by helping to remove financial barriers to college. In fact, Snead and Baridon (2010) present at the 2010 White House Summit for Community Colleges that getting a college education and funds to pay for it was one of three reasons for enlisted servicemen and servicewomen to enter military service.

Darling-Hammond (2010) explains that there is an opportunity gap in America. It is defined as “the accumulated differences in access to key educational resources-expert teachers, personalized attention, high-quality curriculum opportunities, good educational materials, and plentiful information resources-that support learning at home and at school” (p. 28). This includes access to a college education and supports for degree completion.

The United States faces the challenge of maintaining its spirit of democracy and the promise of the American Dream for equitable access to higher education. However, it also must be realistic in its ability to pay for its initiatives and consider putting time limitations on assistance programs for nonveterans to promote degree completion and to lighten the load of national and state budgets. The supporters of the G.I. Bill have proven that Americans just need the opportunity, vehicle, and parameters to achieve their goals and dreams; when presented, the majority of Americans will take advantage of the financial assistance and America will be repaid many fold through higher tax payments, a higher skilled populous, more socially active and engaged citizens, and a commitment to advocate for social justice nationally and internationally.

However, simply providing the financial resources to attend college does not ensure college persistence, retention, or degree completion. As research presented in the next chapter will demonstrate, students need additional assistance once admitted to college. Many student veterans are first-generation students and need to learn more about navigating the admissions processes as it relates to their unique population for Post-9/11 G.I. Bill benefits, deployment and re-enrollment policies, and awarding prior learning credit. Additionally, campus professionals need to help new student veterans overcome the academic, social, financial, and family issues that make it difficult for them to persist to academic success. Student veterans will need to learn about the expectations of involvement in academic culture and know about the supports available (Engle, Bermeo, & O'Brien, 2006; Pryor et al., 2009).

Characteristics of Student Veterans

Student veterans share characteristics similar to non-traditional students and first-generation students. Student veterans are generally older and attend public, 2-year or 4-year institutions. They are more likely to be married or help care for a family member. They are predominantly male and financially independent. They are often awarded prior learning credit for their military training.

Due to being older from time spent in the military, characteristics of student veterans are often compared with non-traditional students. Sternberg, Wadsworth, Vaughn, and Carlson (2009) report student veterans are different from traditional-age students in maturity, responsibility, and leadership background. They also report student veteran similarities to non-traditional students as having better planning and organizational skills, maturity, more extensive prior knowledge to link to course content, being financially independent, having families, and being more likely to take part-time classes (spend less time on campus). Qualities unique to student veterans that may be considered strengths to their transition to college are their knowledge and identification with values and codes, discipline and customs for dress and language, and self-reliance in challenging circumstances.

Additionally, student veterans are awarded prior learning credit for their military training or prior military coursework. Lang, Harriett, and Cadet (2013) state that very few student veterans enroll with no prior learning credit awarded. They find that, on average, post-9/11 student veterans receive 28 transfer credits through a combination of military and prior learning experiences. Prior learning credit assessment is defined as, “the process by which many colleges evaluate for academic credit the college-level

knowledge and skills an individual has gained outside of the classroom (or from non-college instructional programs), including employment, military training/service, travel, hobbies, civic activities and volunteer service” (Council for Adult & Experiential Learning (C.A.E.L.), 2010, p. 6).

When studying student veterans, researchers must also consider the first-generation status of student veterans and the characteristics associated to first-generation students. Kim and Cole (2013) report 62% of student veterans are more likely to be first-generation students, compared to 43% for their nonveteran peers. Characteristics such as academic, social, financial, and family issues also apply to student veterans whose parents or family members have not attended college. First-generation students are more likely to live and work off campus, take classes part-time, spend less time on campus, and need more training on financial literacy (Engle, Bermeo, & O’Brien, 2006).

McBain, Kim, Cook, and Snead (2012) report that more than 500,000 student veterans have utilized the Post-9/11 G.I. Bill benefits and more than 2 million veterans are in the process of being brought home from Iraq and Afghanistan. Radford and Wun (2009) describe the student veteran population as making up only 4% of the college student population in 2008, with about a quarter of that population being on active duty. In contrast, in 1947, student veterans made up almost 50% of the total U.S. college enrollment; there exists a higher demand for college enrollment of student veterans. Active duty student veterans are deployed throughout their time in college and are required to take classes or make arrangements to finish taking courses between serving their assignments. Women represent 27% of student veterans in 2007-08, although they represent 7% of all U.S. veterans in 2006. Eighty-five percent of student veterans are

over 24 years old. Forty percent of student veterans are considered non-White. Student veterans are more likely to be married (48%) and/or support a dependent (47%); the vast majority of student veterans are financially independent (97%).

Many student veterans attend community colleges; 63% of active duty graduates earned an associate degree. Thirty-nine percent of student veterans receiving Veteran Affairs (V.A.) educational benefits select 2-year public institutions. It was reported that public 2-year (66%) and public 4-year (74%) institutions are more likely to have programs designed for student veterans (Snead & Baridon, 2010).

Research Problem

Basic training for soldiers, regardless of military branch, may last 6 to 12 weeks. The “boot camps” help prepare soldiers for transition into the military. Basic training may be a 9-week affair for one branch of the military. During basic training, topics such as appearance, paperwork, medical, weapons, military career guidance, drill precision, Cardiopulmonary resuscitation (CPR), survival skills, code of conduct, role play, physical fitness, and values may be covered. Only one week may be set aside to cover combat stress recovery, financial management, sexual assault prevention and response, career progression, ethical decision making, military citizenship, history and organization, healthy lifestyles, alcohol and drug awareness, environmental awareness and vocational or other training (Department of the Army, 1999).

A great amount of time is invested to prepare American citizens for deployment into the battlefield but not enough resources and effort is allocated to prepare them for deployment onto college campuses after their period of service. Very little time is spent to help them in this transition to adjust to being a new college student. Most of the

information given to veterans during their transition assistance training is about paperwork and documents needed to access veteran benefits.

One student veteran describes the transition experience during a G.I. Bill focus group by the Winston Group, for the American Council on Education, as:

Really, the military doesn't prepare you for the exit. You probably have one day and that is TAPS (Transition Assistance Program) where they sit there and say this is out there... You do something for... years in the military and now you come into the civilian sector –you have to deprogram yourself to work in that environment of the civilian world. (Radford, 2009, p. 17)

Educational leaders and campus professionals need to make a commitment to doing more. This includes providing the necessary resources, involving the key stakeholders, or developing a strategic plan that includes the student veteran population. Educational leadership is mobilizing a community to make progress on addressing problems than influencing a group to follow one's vision (Heifetz, 1994). The problem at hand is the persistence of student veterans and removing the barriers for access and the barriers that cause attrition.

No college or university has perfected a system for helping our veterans. Even now, ...after passage of the Post-9/11 G.I. Bill, the nation's higher education system as a whole remains hampered by gaps in basic data about the retention, graduation, and job-placement rates of student veterans. Nevertheless, we have both an obligation and an opportunity in the years ahead to achieve even greater success by doing what our veterans have done on our behalf for years: listen, improvise, persevere, and lead. (Knapp, 2013, p. 1)

Previous military experience helps student veterans gain skills in communication, interpersonal skills, leadership ability, and cultural sensitivity. However, veterans experience a disruption in their educational timelines, between their high school experiences and the time they enter college. As a result, student veterans may lose skills

in mathematics, writing, or study skills, which in turn may affect their academic preparedness when transitioning to college.

It is not conclusive which pre-entry attributes most influences student veteran persistence. It is also not clear what forms of involvement work best for student veterans due to their personal characteristics and unique background. Evaluating graduation rates in most cases is premature (Lang et al., 2013). A review of the literature informs this study that more multi-institutional studies, comparing student veterans to populations with higher student veteran enrollment such as public, 4-year and 2-year institutions, predominantly commuter campuses, selectivity, and full-time and part-time students are needed. It is necessary to determine what forms of student involvement, either academic or social, is best for student veterans. Through using instrumentation that can be used to measure initial student veteran characteristics, researchers may be able to develop a model to predict commitment to institution and/or commitment to degree completion.

Efforts of campus professionals need to be coordinated and prioritized in order to better serve and increase the persistence and retention rate of student veterans. DiRamio, Ackermann, and Mitchell (2008) suggest that colleges and universities take a holistic approach to assist student veterans in order to increase their academic success. Suggested initiatives include early identification in the admissions process; access to V.A. certifying official and information about benefits of which they are eligible; information on counseling, awarding prior learning credit, deployment/re-enrollment policies, and disability services; establishment of a student veteran organization or other opportunities to connect with peers; and training for faculty and staff to enhance sensitivity toward student veteran issues.

There are common supports that benefit both student veterans and nonveteran students; and likewise there are supports that are unique to benefitting student veterans alone. This study examines pre-entry attributes and skills gained and lost of first-year student veterans and identifies the supports that they utilize; different forms of student involvement will be evaluated to better inform educational leaders, faculty, and staff about effective ways to help student veterans for academic success.

Little is known about experiences and expectations student veterans bring with them to college campuses. The amount of scholarly literature studying student veterans is limited and dated. There is also a need to add more to the literature about the current cohort of student veterans from Iraq and Afghanistan. Previous research focused more on academic achievement only rather than analyzing the relationship to transition or adjustment to the first year of college.

Conceptual Framework

There has been more emphasis to bringing theoretical concepts and models to evaluate processes, technologies, and environments to help universities to be more effective (Peterson, 1985). The literature of social integration, transition theory, and student involvement provide for a foundation for conceptualizing this study. Researchers using transition theory by Schlossberg (Rumann & Hamrick, 2010; Bauman, 2009; DiRamio, Ackermann, & Mitchell, 2008; Goodman, Schlossberg, & Anderson, 2006) and social integration and student involvement in academic programs or student life (Astin, 1993; Tinto, 1993; Hurtado & Carter, 1997; Kuh, Douglas, Lund, & Ramin-Gyurnek, 1994; Seidman, 2005; Spady, 1970) have inspired various models for use with services that support the persistence and retention of student veterans.

Schlossberg's four "S" System: Situation, Self, Support, and Strategy variables is used to examine areas of need for student veterans and how they adapt and cope to college life. Both student veterans and nonveterans begin the moving in to college phase by assessing their Situation variable and being aware of personal strengths and liabilities (Self variable). For this study, personal strengths and liabilities are presented in the literature review as skills student veterans have gained or lost due to their time in the military. Prior studies on persistence and retention (Astin, 1993; Tinto, 1993; Hurtado & Carter, 1997; Seidman, 2005; Spady, 1970) guide the evaluation of pre-entry attributes and analysis of forms of involvement in this study. See concept map in Appendix G. Finally, student veterans having access to university provided supports also help their transition into college, through college, and out of college; therefore, the Support variable—forms of student support services and the effectiveness of student support services to help them cope (Strategy variable)—are analyzed.

The social distance caused by the difference in age and military experience of student veterans may delay their adjustment to campus culture. Student veterans need to integrate into the community through connection to peers, faculty, and college resources. The more they feel part of the campus community, the more they are likely to invest their time in academic and social aspects leading to persistence, or academic success.

Interactions with other students and faculty about academic issues, academic performance, and participation or membership in student organizations are related to having a connection to the institution. Their unique military background serves as a subculture or affiliation that only other members of their group can relate to through participation with a student organization such as the campus student veteran organization,

or participation in other student veteran activities or events. However, student veteran commitments to family and work may connect student veterans to non-traditional students and first-generation students. Student veterans who are able to utilize the right strategies are more likely to persist.

Purpose of the Study

While issues related to financial aid (American Council on Education, 2008), post-traumatic stress disorder and traumatic brain injury (Tucker et al., 2005), dealing with inappropriate questions from civilians, the need to relate better to other veterans, and retention issues related to stop-outs and delays in benefits continue, this study focuses on the first-year college transition of first-year student veterans. Using a quantitative approach, this study identifies what form of involvement work best for academic success for student veterans. The intent of the study is to analyze factors that influence the transition of student veterans. Schlossberg's Transition Framework variables (Goodman et al., 2006) guide this study to better understand and recognize positive adjustment strategies that help student veterans effectively adapt and cope to college.

The purpose of this study is to examine the relationship of pre-entry attributes, skills gained or lost, and student involvement to first-year academic success for first-year student veterans in comparison to first-year nonveteran students.

Research Questions

Based on the literature review, this study on student veterans answers the following three key research questions:

1. What forms of student involvement work best for student veteran academic success?

2. Are there significant mean differences in academic success that exist between student veterans and the following groups: traditional students, first-generation students, or non-traditional students?
3. What independent variables (pre-entry attributes and skills gained or lost) are most influential in predicting student veteran academic success?

Definitions of Study Variables

The “best form of student involvement” and “academic success” variables are used as the dependent variables. The independent variables being used for the study are pre-entry attributes and skills gained or lost. These are Cooperative Institutional Research Program (C.I.R.P.) Freshman Survey items, which identify financial stress (annual income less than \$20,000), prior learning experience (awarded credit hours), emotional health, physical health, writing skills, public speaking skills, academic ability, computer skills, and mathematical skills.

The best forms of student involvement variable are determined using factor analysis in order to reduce the number of variables to observe. A cluster of seven factors are identified from the following variables/questions in the Your First College Year (Y.F.C.Y.) Survey questions (#2, #6, #11 and #22) about activities since entering college, where the choices are (1) “Frequently”, (2) “Occasionally”, and (3) “Not at all”. See survey instrument in Appendix B.

- Been bored in class
- Tutored another student
- Studied with other students
- Been a guest in a professor’s home
- Smoked cigarettes
- Drank beer

- Drank wine or liquor
- Felt overwhelmed by all you had to do
- Felt depressed
- Performed volunteer work
- Asked a professor for advice after class
- Voted in a student election
- Worked on a local, state, or national political campaign
- Socialized with someone of another racial/ethnic group
- Come late to class
- Used the internet for research or homework
- Performed community service as part of a class
- Maintained a healthy diet
- Had adequate sleep
- Helped raise money for a cause or campaign
- Publicly communicated your opinion about a cause
- Turned in course assignments late
- Contributed to class discussions
- Discussed course content with students outside of class
- Skipped class
- Received tutoring
- Worked on a professor's research project
- Turned in course assignments that did not reflect your best work
- Had difficulty getting along with your roommate(s)/housemate(s)
- Received from your professor advice or guidance about your educational program
- Witnessed academic dishonesty/cheating
- Went home for the weekend
- Received advice/counseling from another student
- Fell asleep in class
- Had difficulty getting the courses you need
- Instant messaged/text during class
- Worked with classmates on group projects during class
- Worked with classmates on group projects outside of class
- Accessed your campus library resources electronically
- Made a presentation in class
- Applied concepts from courses to everyday life
- Used the institutions website to learn about campus resources
- Used the institutions course catalog (paper or online)
- Study skills advising
- Financial aid advising
- Student health services
- Student psychological services

- Writing center
- Disability resource center
- Career services
- Academic advising
- Interact with faculty during office hours
- Interact with faculty outside of class or office hours
- Interact with academic advisors/counselors
- Interact with close friends at this institution
- Interact with close friends not at this institution
- Interact with your family
- Interact with close friends from your high school

The independent variables are financial stress, psychological/physical health, prior learning experience, and skills gained or lost. Dummy variables are created for non-traditional student status, veteran status, first-generation status, and financial stress (income under \$20,000), and prior learning experience for use in data analysis.

Additionally, factor analysis is used to determine pre-entry attributes and/or skills gained or lost factors from the C.I.R.P. Freshman Survey Question #29. For this study, three factors are derived from the three-component matrix to create “Academic Skills” factor, “Creative Expression Skills” factor, and “Wellness” (psychological/physical health) pre-entry attribute factor. Variables from the C.I.R.P. Freshman Survey instrument (See Appendix A) are listed in Table 1.

Table 1

Variables

Questions from the C.I.R.P. Freshman Survey (code)	Variable
What is your overall grade average? (COLLGPA)	academic success
How old will you be on December 31 of this year? (NONTRAD)	age/maturity
Do you currently have veteran status with the U.S. Armed Forces, Military Reserves or National Guard? (VETERAN_TFS)	veteran status
What is the highest level of formal education obtained by your parents? (FIRSTGEN_TFS)	first-generation status
I plan to live at home with my family. (COMMUTER)	commuter/resident status
Institution Type: Public Universities (PUBLIC)	public/private inst. type
Reported family income below \$20,000. (PELL_ELIGIBLE)	financial stress
Since leaving high school, have you ever taken courses, whether for credit or not for credit, at any other institution? (PRIOR)	prior learning credit
Rate yourself on "Wellness" factor (Wellness_CIRP)	psych/phys health
Rate yourself on "Creative Expression Skills" factor (Creative_Expression_CIRP)	skills gained/lost
Rate yourself on "Academic Skills" factor (Academic_CIRP)	skills gained/lost

Importance of the Study

This study is valuable to student affairs practitioners and theorists interested in persistence and retention of non-traditional students, especially student veterans who benefit from the Post-9/11 G.I. Bill. Since there are no empirical studies to support a student veteran attrition theory, more studies need to be done with the Post-9/11 G.I. Bill

cohort. This study offers a multi-institutional comparative and longitudinal study of student veterans, offering campus professionals findings that will help them assess the services they provide to new student veterans. As a result, entering student veterans will find a more welcoming campus, understanding of their background and unique needs. Additionally, this study creates awareness for faculty and campus professionals to be more aware of underprepared (reading, writing or math skills) student veterans and seeing some of them as being an at-risk student for attrition. Greater attention to selecting or adapting teaching strategies and methods will benefit student veteran transition to academic expectations. Additionally, the findings of this study can be incorporated into decision making processes for institutions to better reallocate resources.

Community colleges also benefit from this study since the majority of student veterans begin their college careers at community colleges (Kim & Cole, 2013). Community colleges can better prepare student veterans for transfer to 4-year institutions, preparing them to address skills lost and to promote the best form of involvement for academic success.

Campus professionals have an ethical responsibility to help student veterans navigate through the higher education system rather than take advantage of revenue that can be collected through higher enrollments due to tuition benefits of the Post-9/11 G.I. Bill. An Executive Order by President Obama in 2012 protects student veterans from higher education institutions using overly aggressive marketing techniques. The principles required in the Executive Order for campus professionals include: providing students with the total costs of programs, alerting students of their Title IV financial aid eligibility, ending fraudulent recruiting, requiring accreditor approval for new

courses/programs, establishing readmission policies, communicating refund policies, providing education plans and timelines, and designating a point of contact for academic and financial advising (American Council on Education, 2012).

Additionally, the study of the success of student veterans contributes to the current national trend to increase postsecondary attainment among Americans for social, economic, and personal growth. Through the American Graduate Initiative, President Barak Obama asked every American to have at least one year or more of higher education or career training by 2020. He sought 5 million additional community college degree or certificate graduates by 2020 and initiatives to raise graduation rates, modernize facilities, and develop online programs. The initiative promotes worksite education programs, dual enrollment programs at high schools and universities, aligning requirements, academic advising, and career counseling (White House, 2009).

Additionally, the Goal 2025 by the Lumina Foundation (2013) is to “increase the proportion of Americans with high-quality degrees, certificates and other credentials to 60 percent by the year 2025” (p. 1). Higher education needs to produce 62 million degrees and/or credentials between 2013 and 2025. Higher education institutions are being challenged to increase data or evidence based policies and practices to close the attainment gap and improve overall degree completion rates. One strategy includes creating new systems for quality using learning competencies rather than time and alignment with workforce needs and trends. Last, the Bill and Melinda Gates Foundation (2013) postsecondary success initiative stresses that poor completion rates are detrimental to the economy, social mobility, and political climate. The foundation supports research and development of solutions that enable institutions to increase graduation rates while

reducing costs and maintaining quality. Strategies include the promotion of reforms and innovation that increase college readiness and postsecondary success.

CHAPTER II

REVIEW OF THE LITERATURE

Overview of the Literature Review

Benefits from the original G.I. Bill and subsequent acts have affected the welfare and persistence of student veterans. Not only do colleges provide an opportunity for veterans to attain higher credentials and skills, veterans can also be identified to receive other needed services to ease transition from military life to civilian life. In this section, a review of the literature presents prior studies that identify key variables such as pre-entry attributes, skills gained or lost, and student involvement; and prior studies on student veteran persistence. Additionally, literature about the effectiveness of student veteran services on college campuses is presented. Bryson (2011) states that it is important for performance information to be gathered and/or compared for internal and external stakeholders to later identify the strategies in a plan. Without this process, the strategic planners may lack adequate understanding of stakeholder interests or external demands.

Many of the recent studies on student veteran persistence and retention have utilized the theory of adult transition by Schlossberg (Rumann & Hamrick, 2010; Bauman, 2009; DiRamio et al., 2008; Goodman et al., 2006). Using the Factors that Influence Transitions in reference to Schlossberg's Transition Framework theory, one can better understand and recognize positive adjustment strategies to college life. Moving from military life to college life is considered an anticipated transition. Most veterans anticipate using educational benefits after their time of active duty. Schlossberg's four

“S” System: Situation, Self, Support, and Strategy variables are used to discuss areas of need for student veterans and how they adapt to and cope with college. DiRamio et al. (2008) apply this to the transitional phases for student veterans of moving out of the military; moving in to college; moving through college; and moving out of college, from graduation. Both student veterans and nonveterans begin the moving in to college phase by assessing their Situation variable and being aware of personal strengths and liabilities (Self variable). Adjusting to an environment where finding a purpose is an individual task in college can be a struggle and requires an awareness and acceptance of independent thinking. For this study, personal strengths and liabilities are presented in the literature as skills student veterans have gained or lost due to their time in the military. Prior studies on persistence and retention (Astin, 1993; Tinto, 1993; Hurtado & Carter, 1997; Seidman, 2005) suggest that pre-entry attributes are a factor in student persistence. Additionally, student involvement in academic programs or student life (Astin, 1993; Tinto, 1993; Hurtado & Carter, 1997; Kuh et al., 1994; Seidman, 2005; Spady, 1970) also contribute to student persistence to graduation. Finally, student veterans having access to university provided supports also help their transition in to college, through college, and out of college. The Support variable of student veteran services and their effectiveness to help veterans cope (Strategy variable) are also presented. Over the years, student veterans have performed well academically due to being more mature, highly motivated, and disciplined. They have not demonstrated a commitment to co-curricular activities due to external commitments to family and work, similar to non-traditional students and first generation students. However, they possess a greater sense of global awareness and cultural sensitivity.

Pre-entry Attributes

As part of his Longitudinal Model of Institutional Departure, Tinto (1993) describes pre-entry attributes as personal characteristics that a student possesses prior to attending college. In addition to the characteristics presented in the previous chapter, the analysis of prior studies utilizes this concept of pre-entry attributes to argue and explain that student veterans must contend with the following themes: maturity, changing roles- military to family and work life, financial stress, psychological and physical health, and prior learning experiences.

Maturity

Student veterans are serious, mature, and hardworking (Breedin, 1972). A study by Frederiksen and Schrader (1950) determines that student veterans with lower socioeconomic status are more highly motivated. Using data from a student opinion questionnaire and aptitude test results, the study points out that student veterans are generally more mature, want better paying jobs, and have less educated fathers than nonveterans. Many may have been first-generation status. Older and married student veterans are more motivated to complete college (Fredriksen & Schrader, 1950; Atwell, 1999). Studies of both 4-year (Pryor et al., 2009; Kim & Cole, 2013) and 2-year colleges (Barnhart, 2011) report age is a significant variable, indicating level of maturity or non-traditional status is a factor for student veteran persistence.

Changing Roles

The student veteran must adjust to decision making based on outside forces to more self-regulation to attain individual goals. Dr. Schlossberg states,

They are leaving the familiar, their friends, and sense of mission. At the same time that they are dealing with role exit matters, they are moving into two new systems: reintegrating with their families and starting college...it's about balancing work, family and school. (DiRamio & Jarvis, 2011, p. 19)

Tinto (1993) in his revised model of student persistence, acknowledges that external commitments may contribute to persistence and retention models. The importance of the relationship between prior communities and transition adjustment need to be considered when studying student veterans. Student veterans, returning from military service, must adjust to their new roles within their work and family life, in addition to their role as student. Student veterans, like non-traditional students, are more affected by the external social environment such as family and work than social integration factors that affect traditional students (Barnhart, 2011; Lang et al., 2013). Kim and Cole (2013) believe that student veterans and non-traditional students have similar issues with family or work obligations that hinder them from fully engaging in student life at the level of traditional students. They report that student veterans are less likely than nonveteran, non-traditional students to receive help from programs like non-traditional student services to cope with non-academic responsibilities such as work and familial challenges (26% versus 34% of nonveterans). Researchers (Ly-Turnbull, 2010; Doenges, 2011) have specifically studied the changing roles for student veterans from military life to civilian life, finding that student veterans never completely leave their military identity behind but take it with them into their new roles. Dealing with changing roles may require a more complex model for persistence.

A student's background affects attrition; however for minority groups and low income students, it is more so due to academic deficiencies (Tinto, 1993). Academic

deficiencies of student veterans need to be taken in to account when supporting their transition. This is addressed in more detail under the variable of Skills Gained or Lost.

Financial Stress

Studying the adequacy of student veteran services needed for success, through the perceptions of Veteran Affairs (V.A.) coordinators at 228 out of 302 public colleges, Gauntner's (1981) findings indicate financial aid was one of the three most used services by student veterans. The V.A. coordinators are surveyed for needs, availability, effectiveness, and most used of twelve student veteran service areas. This finding reflects student veteran need for services to overcome financial barriers. The ability to financially afford to pay for college and the delays that come with the implementation of veteran benefits through a government bureaucracy present a challenging structure for student veterans to navigate (Sargent, 2009; McBain et al., 2012). Atwell (1999) reports that the availability of financial aid is the most important variable for persistence and retention in a study of student veterans utilizing the Montgomery G.I. Bill benefits, in Florida. Additionally, ethnicity and financial aid variables have a significant relationship to one another. Lang et al. (2013) share about the usefulness of the yellow ribbon program for Post-9/11 G.I. Bill users, where private institutions offer to cover the gap between the highest in-state tuition and their tuition to decrease the financial burden on student veterans at private, four-year institutions. More than 50% of public institutions also offer in-state tuition for student veterans and family members moving in from out of state (Cook & Kim, 2009). Some veterans re-enlist as reservists to address the financial stress (DiRamio et al., 2008). In contrast, Barnhart (2011) reports financial need is a bigger attrition issue for nonveterans at community colleges, insinuating that student

veteran educational benefits are helping persistence in higher education, especially at public institutions; the data for Barnhart's study, though, do not include student veterans using the Post-9/11 G.I. Bill educational benefits, enacted in 2008. Other studies (American Council on Education, 2008; DiRamio et al., 2008; Bauman, 2009; Radford, 2009; Sternberg et al., 2009) on student veteran persistence, since the Post-9/11 G.I. Bill was enacted, find financial stress as a critical variable. Finally, Snead and Baridon (2010) report that military spouses may need "financial assistance to help pay for licenses, certifications, training programs, and education in high demand career fields" (p. 82). Due to relocation patterns of military families, such support would help the ease of transition of student veterans and spouses financially.

Socioeconomic status is a vital piece of the retention and persistence equation in the research (Engle & Tinto, 2008). Unmet financial aid is a large factor that separates low-income and minority students from others. Students with the characteristics of low-income and first-generation are doubly disadvantaged. The statistics from 1970 to 2005 literally double the gap. Low-income and first-generation students grew from 6% attaining bachelor's degrees to 12% from 1970 to 2005. In the meantime, their advantaged student peers' degree attainment rate grew from 40% to 73%. The pre-entry attribute of financial stress must be considered in a study of student veteran persistence. Not doing so would be a limitation to any study of student veterans.

Psychological and Physical Health

Identification and support of students with disabilities and mental health problems such as Post Traumatic Stress Disorder are reported as part of the moving in to college phase by DiRamio et al. (2008). Bauman (2009) reports in the third military mobilization

phase, when reservists return from military service, that the student veterans present mental health/dissociative coping strategies and a variety of debriefing intervention experiences is necessary. Barnhart (2011) suggests psychological outcomes in the form of stress, from personal issues, are the most prevalent reasons for attrition among student veterans at the community college level. There is a pressing need to improve counseling services for the veterans in the academic population of American colleges and universities. Research indicates that veteran support groups are an essential component to positive treatment outcomes with veterans who are suffering with mental disabilities, specifically Post Traumatic Stress Disorder (Gauntner, 1981; Tucker, Sinclair, & Thomas, 2005; Laffaye, Cavella, Drescher, & Rosen, 2008; Sargent, 2009; Cook & Kim, 2009). Specifically, a Rand study claims that 18% of veterans returning from Iraq or Afghanistan conflicts have Post Traumatic Stress Disorder (Tanielian & Jaycox, 2008). The National Survey of Student Engagement (2010) reported that one in five student combat veterans have at least one disability (mobility impairment, mental health disorder, sensory impairment, etc.)

Prior Learning Experience

The Council of Adult and Experiential Learning or C.A.E.L. (2010) report that prior learning assessment makes higher education more affordable and take less time. After prior learning credit is earned, it allows students to advance to another required course; such as meeting elective, general education, or program/major requirements. Most institutions that use prior learning assessment cap prior learning credits to half of the credits needed for a degree. Advocates of prior learning assessment claim that it contributes to student persistence towards a degree. The rate of attrition for students who

earn more than 12 hours of prior learning credit decreases. C.A.E.L. argues that students who earn 12 or more credits through prior learning assessment complete their degree 6.6 to 10.1 months faster than those who do not have prior learning credits.

After conducting the first, large, multi-institutional study (C.A.E.L., 2010) on prior learning experience, analyzing 62,475 student records from 48 institutions, starting in 2001 and ending in 2008, the findings reveal that 43% of non-traditional students who earned prior learning credits attained a bachelor's degree compared to 15% who do not have prior learning experience. Thirteen percent of non-traditional students who earn prior learning credits attain an associate's degree compared to 6% who do not have prior learning experience. Persistence was studied through comparing total credit accumulation and annual credit-earnings. Fifty-six percent of non-traditional students who earn prior learning credits earn over 80% of credits toward a degree, compared to 22% who do not have prior learning credits. Non-traditional students who earn prior learning credits completed more institutional course credits (53.7 credit average) than those who do not have prior learning credits (43.8 credit average). Finally, non-traditional students who earn prior learning credits display more continued enrollment, completing courses in the second through sixth years. In comparison, those who do not have prior learning credits had a higher attrition rate after one year. The results for differences in graduation rates for students with military service were not significant, as was expected, due to little or no empirical studies on student veterans related to prior learning credits. The C.A.E.L. study only identified students with military service from two participating institutions out of 48 total, which made the results for student veterans not generalizable.

According to DiRamio et al. (2008), earning credits was a theme while student veterans are in the moving through the military phase. McBain et al. (2012) report that 84% of all institution types award college credit for military training. In 2011, Lang and Powers (2011) report 33% of participants in their study are awarded prior learning credits. By 2013, Lang et al. (2013) point out that “most incoming military-affiliated students...entered school with sufficient credits...on average, of 28 transfer credits-awarded through a combination of military and prior educational pursuits. Few veterans begin with no prior academic or experiential credit” (p. 9). Snead and Baridon (2010) also identify the optimization of prior learning college-level credit awards toward graduation requirements as a means to accelerate the graduation rates of student veterans at community colleges.

If dual enrollment credit were included as prior learning credit in future persistence research discussions, Shapiro and Dundar (2013) report that including completion rates of dual enrollment students increases the overall national completion rate from 54% to 56%, by the National Student Clearinghouse Research Center. The completion rate of the dual enrollment students is 66%, 12 points higher than the completion rates of students with no prior dual enrollment experience.

Skills Gained or Lost

DiRamio and Jarvis (2011) share that college-level preparedness skills can suffer while in the military. Student veterans may have diminished academic skills such as mathematics and study skills. Pryor, Hurtado, DeAngelo, Palucki-Blake, and Tran (2009) share that new student veterans report needing tutoring in mathematics (35.8% versus 24.3% of all other students) and writing (20.7% versus 11.6% of all other

students). Kim and Cole (2013) discuss how both student veterans and non-traditional students report lower gains in academic achievement such as acquiring general education, speaking effectively, solving problems, working with others, and contributing to the community.

Student veterans are more mature, globally aware, and demonstrate greater cultural sensitivity skills (DiRamio & Jarvis, 2011; Kim & Cole, 2013). Many student veterans have acquired top job candidate skills while in the military such as communication skills, interpersonal skills, and teamwork skills (DiRamio & Jarvis, 2011). Pryor et al. (2009) suggest that student veterans begin college with significantly higher leadership ability than compared to all other students. “Student veterans/service members and nonveterans/civilian students start from different baselines. The experiences gained by student veterans/service members outside higher education could moderate the gains possible in postsecondary education, in comparison with nonveterans/civilian students who have fewer real-world experiences” (Kim & Cole, 2013, p. 12).

While researchers (Pascarella & Terenzini, 2005; Noel, Levitz, & Saluri, 1985; Tinto, 1993) find that high school grade point average (G.P.A.) is the single best predictor of student persistence for traditional students; how should campus professionals account for the prior learning experiences and skills gained since high school by student veterans when developing a retention plan?

Student Involvement

Social integration is a key to student retention and academic success (Tinto, 1990). Tinto’s last two stages of integration: transition and incorporation can be applied to student veteran adjustment to academic culture. They search for their place until they

feel they have achieved full membership into the college community (Tinto, 1993). Astin (1993) states that a student's college experience is strongly affected by student-faculty interactions. Faculty interaction is the frequency with which students talk with professors outside of class, assist them with research projects, assist them in teaching; and correlates with grades, degree attainment, and enrollment in graduate or professional school. Kuh, Cruce, Shoup, Kinzie, and Gonyea (2008) describe the educational practice of purposeful interaction with faculty and peers as active and collaborative learning. They reported a small but statistically significant effect student engagement has on academic success. Examples of effective educational practices they present include orientation, first-year seminar, learning communities, intrusive advising, peer tutoring, and service learning. Feldman and Newcomb (1969) study the way faculty positively impact students through building relationships and creating a positive social environment. Students' perceptions that faculty care about them and that faculty are accessible promote persistence and degree completion when adjusted for precollege characteristics, including ability (Pascarella & Terenzini, 2005).

Lack of adjustment or assimilation to a peer group or the academic culture at college may influence a student veteran's level of involvement and lead to attrition. Astin's (1984) theory of involvement addresses student learning and its positive relationship to the amount of time spent involved in the academic and social aspects of college life. Successful social integration addresses issues of isolation and lack of connection to peers. Astin's (1993) Involvement Effects relating to student-to-student interaction describe the importance of being affiliated to a peer group. Peer groups are the single most potent source of influence on growth and development in contrast to

faculty, curriculum, and institution type. More time spent on campus on student-to-student interactions participating in activities, student organizations, volunteering, or on-campus employment affects learning, academic performance, and retention.

Hurtado and Carter (1997) state that subgroups such as minority groups do not completely leave behind their culture. Student veteran family support and campus cultural affiliation have an influence on sense of belonging and persistence to graduation. Interactions with other student veterans and faculty about academic issues, academic performance, and participation or membership in student organizations are related to having a sense of belonging to the institution. According to Summerlot, Green, and Parker (2009), student veteran organizations (SVOs) are great starting points for new student veterans to connect to peers, find information, and access other support services. When joined with veteran offices that have adequate staffing, student veteran organizations are an indicator of a veteran-friendly campus with a supportive climate. Student veteran offices can express a collective voice to advocate for student veteran needs. Cook and Kim (2009) report that only 32% of colleges have a student veteran organization. A positive relationship is found between a connection to the college and persistence (Sternberg et al., 2009). Connecting with peers, blending in, and faculty interaction was highlighted as critical components of moving in to college (DiRamio et al., 2008).

The attainment of belonging and affiliation that was an essential part of being in the military contributed to satisfying the need for achievement and self-esteem. For the student veteran to persist and move into the role of a fulfilled civilian self, he or she must experience this belonging and connectedness in the college environment. (DiRamio & Jarvis, 2011, p. 26)

The findings by Barnhart (2011) reveal that the experiences of student veterans are not dissimilar to nonveterans. Academic integration in general is important to two-year college student veteran persistence. Academic integration is measured by items such as frequency of social contact with faculty; frequency of interactions with faculty about academic matters outside of class; frequency of meetings with an academic advisor, and frequency of participation in study groups.

Data from key national surveys related to student engagement and transition have been utilized to better inform educational leaders and campus professionals about student veteran student involvement. Pryor et al. (2009) reintroduce veteran status to the annual Cooperative Institutional Research Program (C.I.R.P.) Freshman Survey in 2009 and report first-year student veterans present as having lower academic self-concept and report significantly lower high school grades when compared to all other students. Interestingly, the social self-concept of student veterans is significantly higher for student veterans (43.6% versus 29.6% of all other students). In contrast, student veterans report being less likely to discuss course content with students outside of class (37.1% versus 46.1% of all other students) and less likely to join student clubs or groups (34.6% versus 45.9% of all other students). Pre-entry attributes and other characteristics (i.e. selectivity, public/private institutional types, residential/commuter status, etc.) of the comparison group should be considered in future research designs using H.E.R.I. data.

Kim and Cole (2013) use data from the 2012 National Survey of Student Engagement (NSSE) to analyze the integration of 2,505 student veterans to post-secondary education from military service and whether the student veterans are engaged in both academic programs and student life. Only data from the 132 (out of 584) 4-year

institutions that previously participated in the American Council on Education (ACE) Soldier to Soldier II report (McBain et al. 2012) are analyzed.

Key findings of the study (Kim & Cole, 2013) include student veterans are more selective about the use of their time (70% spend 11 hours or more preparing for class versus 65% for nonveteran students); discuss grades or assignments with instructors (60% versus 58%); place more emphasis on academic-related activities than student life; less likely to participate in “high impact” activities such experiential learning (i.e., internships, study abroad, learning communities, and community service) but more likely to engage in independent study or self-designed major (26% versus 22%) or senior project (66% versus 61%); less likely to feel academically supported (72% versus 77%). Student veterans appear to have a more supportive relationship with faculty and staff and a sense of belonging with administration. Socially, student veterans dedicate less time to relaxing and socializing; are less likely to have a friendly and supportive relationship with other students than nonveterans (58% versus 62%). These findings are similar to that of first-generation students and non-traditional students. Additionally, when student veterans are compared with other students 25 years and older (non-traditional students), they are just as likely to engage faculty, serve on committees, attend orientation, and participate in student life activities. They spend similar amounts of time preparing for class and working with peers outside of class. In general, NSSE (2010) reported that student veterans feel less support from campuses and are less likely to interact with faculty due to obligations outside of school such as caring for dependents or working.

Braxton, Hirschy, and McClendon (2004) suggest a new dependent variable called level of commitment, influenced by pre-entry attributes, socialization, level of

initial commitment, level of commitment to institution, and commitment to graduation. Consideration for the ability to measure commitment prior to entering college should be considered in selecting instrumentation. However, no empirical studies were found applying this variable to student veterans.

Studies of Student Veteran Persistence

Researchers (Pascarella & Terenzini, 2005; Noel, Levitz, & Saluri, 1985; Tinto, 1993) find that high school G.P.A. (grade point average) is a confounding variable of student persistence. Academic performance affects occupation status and earnings too. Admissions criteria help colleges identify students who are better prepared for college-level work. Veterans have the potential to be excellent students due to their prior learning experiences during their military service. Student veterans can make better grades than nonveterans if they are able to balance external commitments to family and work, financial stress, receive assistance for psychological and/or physical health concerns, and/or receive at least 12 credit hours or more of credit for prior learning. Additionally, they need to show commitment through involvement in academic activities and some level of connection to peers.

Breedin (1972) states World War II student veterans earned higher grades than nonveteran classmates. The study of 2,400 student veterans from Brooklyn College, during 1946-1949, reports student veterans performed better than nonveteran peers. A study by Frederiksen and Schrader (1950) determines that 75% of World War II veterans earn better grades than nonveterans; better academic performance is defined as about half a grade. The sample includes 10,000 male participants, consisting of 25 groups from 16 colleges. The researchers compare like individuals in abilities, departments, class, and

school. This study has been cited often as showing that the G.I. Bill would not have made as much of an impact on college entrance as people have reported. Critics of this study question the representative nature of the schools involved in this study and whether it truly reflected the population. Others think the researchers oversampled better-off veterans.

Bound and Turner (2002) report that the original G.I. Bill increased college completion rates of World War II veterans. Using 1970 census data, a regression discontinuity analysis, and time series regression, the researchers find the best group of World War II veterans for educational attainment was born after 1927. Years in college increase by 0.3 years and completion rates increase by 6%. It is unclear if veterans entering college after World War II were new demand or just postponements who would have entered anyway.

The purpose of the longitudinal study by Atwell (1999) is to determine the program completion rate of three categories of the Montgomery G.I. Bill and to develop a transportable reporting system for persistence. The study considers similarities between independent variables: gender, age, ethnicity, marital status and financial aid. Additionally, it analyzes dependent variables: cohort types (full-time, part-time, community college transfers), training time, graduation rate, retention rate, and persistence rate.

A student-tracking model is set-up, profiles are developed, and archived data is analyzed. Atwell analyzed data from the U.S. Department of Veteran Affairs, State University System of Florida, and Florida Community Colleges regarding 1,307 students out of the 1,631 target population from 1987-1997. Eighty-six percent first-year retention

rate is reported, and over 70% graduation rate is reported for student veterans admitted from 1987-1992.

Barnhart (2011) explores the relationship between academic and social integration to the persistence for student veterans at 2-year colleges. The quantitative study uses Nontraditional Undergraduate Student Attrition theory (Bean & Metzner, 1985) to analyze secondary data from the Beginning Postsecondary Students Longitudinal Study beginning in 2003 and ending 2006, focusing on first-time beginning student veterans and nonveteran students in a subset of community colleges and private 2-year institutions. Findings assert that student veteran persistence at community colleges lagged behind persistence at 4-year institutions; and student veterans in community colleges who are successful are more likely to leave early to complete their degrees at a 4-year institution. Barnhart finds that student veteran non-completers have, on average, a higher G.P.A. than those who persist at 2-year institutions. The sample size of veterans (102) limits the generalizability of the findings.

A study of 160 student veterans randomly selected from seven colleges states “student veterans had, on average, a higher G.P.A. and retention rates than their traditional student peers and their course loads were comparable” (Lang & Powers, 2011, p. 11).

Lang and Powers (2011) study student veteran progress toward degree attainment to develop the nation’s first multi-state, cross institutional degree attainment evaluation mechanism, the Graduation Probability Indices (G.P.I.). The average 4-year completion rate of participating colleges for all students is 31%. The G.P.I. includes G.P.A., percent of student veterans earning all credits pursued (success rate), and semester-to-semester

retention (persistence rate). A DePaul University study about non-traditional student persistence and retention was used to benchmark findings. The average G.P.A. for student veterans is 3.04 out of 4.0. In the DePaul study, students with a G.P.A. over 3.0 have an average 85.6% retention rate. The retention rate for student veterans in the G.P.I. project is 94%. This is significantly higher than the national rate of 65.7% in 2009 reported by American College Testing (A.C.T.). It is more comparable with the DePaul study rate of 85.6%, since the national A.C.T. averages include students from schools of all levels of selectivity. The success rate, defined in the G.P.I. project as students earning all the credits being pursued, is 71%. Student veterans complete an average of 24 credits per year, projecting possible completion to within 5 years. Based on their findings, the researchers claim that student veterans are excelling with basic support services.

Lang et al. (2013) begin a longitudinal study to follow up on the Graduation Probability Indices (G.P.I.) metric. They study 741 students from 23 4-year campuses (19 public) in 20 states. The G.P.I. project found that student veterans average a 2.98 G.P.A. out of 4.0 in the first year. The success rate is 90.5%. The student veterans, on average, complete 24.5 credits. The persistence rate average is 97%, higher than the average for traditional students of 65.7% nationally, or the DePaul study benchmark of 85.6%.

Effectiveness of Student Veteran Services

A multi-perspective analysis and consideration is useful in addressing organizational issues and effective initiatives. Bolman and Deal (2008) suggest to educational leaders to use the four frames: structural, human resource, political, and symbolic (cultural) to better make sense out of issues that may require more clarity in the

decision making process. Reframing an issue under each frame allows leaders to consider problems in both a rational decision making process and critical reflection. The desired result of this activity is to better understand a situation and navigate through necessary decisions. One may review each frame and link each frame to the views of the organizational problem at hand.

In senior administrative positions where many decisions are made, a multi-perspective analysis helps educational leaders be more effective. Needs may be better understood when seen through a different frame. The solution to a problem may not be obtainable through one frame but may be clear when seen through another frame. Solutions in higher education are often not black and white due to the complexity of systems within higher education structures. After seeing situations in the context of only one frame reveals that a multi-frame approach can lead to increased understanding of an issue.

The Support and Strategy variables of Schlossberg's Transition Framework Theory (Goodman et al., 2006) require student veterans to know about supports available and to use them to cope through their transition to college. A high degree of personal commitment to persistence and degree completion is possible when student veterans utilize coping skills in overcoming challenges or setbacks. Summerskill (1962) reports on how individual pre-entry attributes like maturity, motivation, and disposition shape an individual's ability to meet academic demands and persist.

Structural Supports for Services

The structural frame consists of viewing things as rational. These include technologies, organizational structures, goals, plans, programs, resources, and facilities.

Bolman and Deal (2008) use the term “social architecture.” The structural frame allows for looking at rules and policies, roles, positions, and assessment. Analyzing the way functional areas in higher education are structured is an example. The functional relationship of constituents falls under the framework. A bureaucratic or corporate type model of higher education is easily analyzed in this frame. Looking at roles of the faculty, strategic planning, and technologies available are considered under the structural frame.

Weick (1976) argues that organizations can be seen as loosely coupled systems. The notion is that student services departments may be connected or linked but may retain its own identity and separateness. Each part can adapt to the needs of students without disturbing other parts. Such structures have better sensing elements; have localized adaptation; preserve culture/diversity; insulate breakdowns; allow self-determination; and cost less time and money for purpose of coordination. Assessing services provided to student veterans among loosely coupled systems require comparative studies or longitudinal studies.

McBain et al. (2012) present a follow-up study to the 2008 American Council on Education (A.C.E.) survey that measures campus readiness with student veteran services for veterans. Results are based on 690 respondents out of 4,410 institutions surveyed. They describe veteran-friendly campuses so that data may be used to benchmark programs and services for student veterans. Sixty-two percent report having programs especially designed for student veterans (up from 57% in 2008). Public institutions are more likely to have programs specific for student veterans. Student veteran services widely offered include: policies to refund tuition due to deployment or activation (82%),

financial aid counseling (67%), special student veteran events (66%), counseling for veterans to address Post Traumatic Stress Disorder (84%). Only 55%, up from 35%, have services to assist veterans with physical disabilities and invisible disabilities such as traumatic brain injuries. Eight-three percent award student veterans with prior learning credit. Seventy-one percent of institutions have a dedicated office for veterans, up from 49% in 2009. Offices are more likely to have trainings for faculty and staff (53% versus 43% in 2008) and to sponsor a student veteran organization. Marketing to veterans and developing an easier re-enrollment process for student veterans returning from deployments are the most popular strategies reported.

Student veterans need services for V.A. educational benefits information, academic planning/degree completion, and finding jobs. Gauntner (1981) indicates the V.A. Office and academic advising are most used by student veterans. The study by Lang and Powers (2011) is in response to the disconcerting veteran unemployment rate exceeding 20% for veterans returning from Iraq and Afghanistan. In comparison, the original G.I. Bill, in 1947, was responsible for 7.8 million student veterans in colleges, trade schools, and in business and agriculture training programs.

Lang et al. (2013) reported on programs that were most effective with student veterans as the presence of a veteran office, help with registration and academic advising, and establishment of a student veteran organization. Other services found to be helpful included: yellow ribbon/in service state tuition programs, evaluation and receipt of credit for military training, student veteran website, and career counseling. The student veteran respondents shared about other services they would like to see such as: priority registration, collaboration with administration, employment opportunities, work with

community, meet and greet with department heads, and separate orientation for new students.

DiRamio and Jarvis (2011) performed an exploratory analysis of data from 723 institutions about student veteran services, used in another A.C.E. study by Cook and Kim (2009). They identified five areas of focus for campus professionals: financial matters (in-state tuition, prior learning credits, tuition refund policy), strategic planning (budget, programs, and staff), advising and career services, psychological counseling services (disabilities, brain injuries, adjustment, and V.A. services), and veteran office on campus (for veterans and dependents).

Rowley, Lujan, and Dolence (1997) suggest that part of strategic planning is “establishing a dialogue on a campus wide basis...to help bolster those who are basically supportive or those who have taken a wait-and-see stance” (p. 202). Bryson (2011) states that it is important for performance information to be gathered and/or compared for internal and external stakeholders to later identify the strategies in a plan. Without this process, the strategic planners may lack adequate understanding of stakeholder interests or external demands.

Human Resource and Development

Bolman and Deal (2008) explain that the human resource frame relates to how employees are maximized for the benefit of the organization. This requires learning what motivates employees and matching people with their roles. Critical to problem solving is the understanding of expectations of the organization. This frame considers employee input and intangible things that may empower or motivate employees to work harder. Employees may draw special meaning from the work they are asked to do or draw from

other personal needs. Professional development is also a consideration. Hiring or recruitment processes, employee retention, and feeling valued are all part of this frame. When there are partnerships or collaboration, analyzing the needs and motivations of one another's constituency is part of the human resource frame. Ideas to train individuals to maximize their potential in performing their job function will contribute to more effective organizations.

Ferguson (1984) states that bureaucratic structures do not stress critical thinking, and focus a lot on standardization and non-ambiguity. Ferguson describes organizations needing to evolve from a very hierarchal structure to a more participatory structure. She redefined power as the ability to work together with others and empowering all. While organizations are still made of members who have specific roles and tasks following policies and rules, they may need to be more flexible, dynamic, and open to change in response to the needs of the organization.

The professional bureaucracy (Mintzberg, 1979) of higher education centers around campus professionals and faculty as its operating core and thus they are relied upon to deliver services efficiently and effectively. Professional bureaucracies are usually flat in design and more democratic. In contrast, machine bureaucracies are primarily hierarchical, simple structures with internal, single purpose. External associations (i.e., N.A.S.P.A., A.C.P.A., A.C.E., H.E.R.I., N.S.S.E., educational foundations, etc.) are often utilized to inform about best practices and professional standards for functional areas such as student veteran services. The educational leader is able to support campus professionals through negotiating solutions, buffering government interference, and legislative demands. The effective educational leader is able to help

campus professionals correct deficiencies and adopt innovations. Astin (1993) asserts that practitioners have not been able to develop a consistent simple structure to address persistence. Student development is a highly complex, multivariate process, and universities are highly diverse and complex institutions.

Their leaving appears to be more situational in character than patterned by broad attributes of either individuals or institutions.... There does not appear to be any easy or simple way of characterizing student departure from higher education or of explaining its patterning among different students and institutional settings. (Tinto, 1993, p. 33)

Utilizing a professional bureaucracy approach is better in organizing and prioritizing services in a complex, participative planning structure such as higher education (Rowley et al., 1997).

McBain et al. (2012) recommend providing professional development for faculty and staff, raising awareness of unique issues of student veterans. Braxton et al. (1997) find a relationship between lack of academic integration and attrition in a predominantly commuter institution, indicating that commuter schools should focus more on academic integration for student veterans and find ways to allocate more resources for student veterans and faculty to interact. Dr. Braxton explains, "I think that much of the responsibility resides with faculty members to provide teaching techniques that will complement the learning needs of veterans and others at commuter schools" (DiRamio & Jarvis, 2011, p. 52). Campus professionals can learn from other studies by building on the need for more faculty training to increase faculty sensitivity toward unique veteran issues. Implementation of raising awareness and knowledge among faculty and staff issues facing student veterans is an effective strategy to ease transition (DiRamio et al., 2008; Cook & Kim, 2009; Snead & Baridon, 2010; Lang et al., 2013; Kim & Cole, 2013).

Political Environment

In the political frame (Bolman & Deal, 2008), there is potential to identify conflict areas based on power, influence, and management models. The political frame most always comes into play when making decisions about resources in a competitive environment. Coalitions, whether visible or invisible, should be identified. Power is analyzed as it relates to a variety of constituents. The political skills and tactics considered in partnerships are considered under this frame. Addressing conflicts related to power, resource allocation, rewards, status and such come under the analysis of the political frame. Specific to implementation of a plan falls under this as it relates to a tactic to presenting a decision that has been made.

Cohen and March (1986) suggest it is difficult for educational leaders to generate goals and measures at broad and general levels to accomplish institutional change. It is better to expose inconsistencies of current policies (i.e., admissions process, financial aid, involvement, and other student veteran services) and to make marginal improvements in widely shared objectives such as persistence and retention. To have conscious university leadership is to manage unobtrusively. Educational leaders should let systems go where they want to go with minor interventions. Affect many parts of the system slightly with effective research on student veteran persistence and retention initiatives. Once activated, the effect stays activated without organizational attention.

As previously mentioned, the political environment is right with the support of external funding for student persistence initiatives and support for student veteran persistence. From the White House to the Lumina Foundation, and Bill and Melinda Gates Foundation to the Walmart Foundation, Pat Tillman Foundation, and external

associations, there is great support for programs and services that effectively support student veteran persistence. Billions of dollars have been spent through the Post-9/11 G.I. Bill benefits alone. For this process of the planning, Rowley et al. (1997) would say that there is “a positive political environment of acceptance and implementation” (p. 68).

Symbolic Culture for Success

The symbolic frame (Bolman & Deal, 2008) is the analysis of the culture of an organization. One can begin with observing symbols. Later, social interactions can be considered. Social interactions may be related to heroes, rituals, stories, behaviors, or values shared by members and ways new members are integrated. What Schein (2004) characterizes as underlying assumptions, being unconscious perceptions, thoughts and feelings that members utilize when solving problems, is also considered in this frame. Conflict may also arise when culture is threatened and/or changed. Members may not feel as valued as before or as much as other members.

Schein (2004) uses the example of collaborations in the sense of mergers and acquisitions, pointing out that when two cultures come together there will be clashing. The cultures can be left alone to evolve or more likely one culture will dominate the other to either convert or excommunicate the other. Schein (2004) reports that merging companies rarely check: philosophy of the other organization, technological origins, structure, and ways of operating even though they provide clues to its basic assumptions or culture. For higher education, this would influence shared vision, language and planning, understanding of culture, and expectations of success. It is important for educational leaders to be aware of the significant factor of institutional culture in making changes. Leaders should “articulate the potential synergies or incompatibilities in such a

way that others involved in the decision process can understand and deal with the cultural realities” (Schein, 2004, p. 413).

The *Military to College Guide* (Powers, 2008) produced by the Student Veterans of America organization provides student veterans with suggestions to adapt to the new academic culture of college. The suggestions are not new to what new student orientation directors would inform new traditional undergraduate students:

- Get to know the professors and ask for help
- Take notes and find a study partner
- Take advantage of academic services, tutoring, and counseling.
- Participate in student activities
- Engage in regular exercise and other stress relieving activities

Teaching strategies, new pedagogies, learning styles, and awareness of student unpreparedness are ways to promote retention and persistence (Gabriel, 2008; Engle & Tinto, 2008; Noel, Levitz, & Saluri, 1985; Pascarella & Terrenzini, 2005). Faculty and campus professionals need to be aware of unprepared students as being an at-risk group. Academically unprepared (reading, writing or math skills) and first-generation students need faculty attention. At-risk students need at least one professor who is willing to spend time guiding or advising them. Some students have been described as having academic boredom, where they are uncertain about career goals and lack challenge. Faculty with high expectations have been most successful. Teaching strategies and methods help facilitate student veteran transition to academic expectations.

McBain et al. (2012) state the issue of student veteran acculturation to campus life was more prominent than in the previous survey (55% versus 33% in 2008) indicating that student veterans are spending less time on campus to get involved in non-academic activities.

DiRamio et al. (2008) and Bauman (2009) provide ideas for interventions that help in social integration such as staying connected during deployment, providing student veterans with mentors or support groups, and a creating a pre/post deployment checklist.

Student veteran organizations (SVOs) are great starting points for new student veterans to connect to peers, find information, and access other support services (Summerlot et al., 2009; Lang et al., 2013). Cook and Kim (2009) report that only 32% of colleges have an established student veteran organization.

Effective leadership involves participation and observing, being able to get high enough to see key patterns. It is important to be able to externalize the conflicts when dealing with faculty and campus professionals. Educational leaders engage people in facing challenges to create a supportive climate for student veteran persistence, work to adjust the values to bridge the gap of student services, change perspectives when necessary, and develop new habits of behavior (Heifetz, 1994).

Gap Analysis

The goal of this literature review is to narrow the scope of the study, utilize the primary sources of research, and identify the gap in research (Vogt, 2007). From the literature review, it is not conclusive which pre-entry attribute most influences student veteran academic success. It is also not clear what forms of involvement work best for student veterans due to their personal characteristics and unique background. Application

of transition theory and Tinto's model of Institutional Departure to student veteran persistence are mostly theoretical, with little empirical evidence existing at this time. As more cohorts of student veterans complete their degrees, more research can be done in relationship to graduation rates. Many in the student population of post-9/11 student veterans are still in the early stages of pursuing their degrees; evaluating graduation rates in most cases is premature (Lang et al., 2013).

Most studies are limited to using data collected from full-time, traditional-age student population in four-year settings. The literature informs this study to consider a multi-institutional study, comparing student veterans to populations with higher student veteran enrollment such as public, 4-year and 2-year institutions, predominantly commuter campuses, selectivity, and full-time and part-time students. Tinto (1993) warns that while selectivity determines a higher academic standard which can predict academic achievement, less than 25% of all institutional departures, nationally, take the form of academic dismissal. Braxton, Hirschy, and McClendon (2004) question the validity of Tinto's model, stating that it is "lacking internal consistency, thereby suggesting that his theory lacks explanatory power in commuter institutional settings (p. 17)." Commuter campuses, for example, are more likely to struggle with giving students opportunities for interaction with their peers and faculty due to students commuting, work schedules, and/or part-time student status (Braxton, Hirschy, & McClendon 2004; Pascarella & Terenzini, 2005; Tinto, 1993). This is a particularly important point concerning student veterans, who are more likely to begin their education at community colleges. Kim and Cole (2013) state only 16% of student veterans begin their careers at 4-year institutions.

Prior studies on persistence use pre-entry attributes to predict persistence as well as level of involvement. Astin states, “To succeed, (student veterans) must become involved, and the secret to working effectively with such students is to determine what forms of involvement work best and to encourage the student along these lines” (DiRamio & Jarvis, 2011, p. 33). Thus, this study seeks to find what forms of student involvement, academic or social, is best for student veterans for academic success.

A study of student veterans is needed to focus on their unique pre-entry attributes, skills gained or lost, and involvement patterns. Previous military experience helps student veterans gain skills in communication, interpersonal skills, leadership ability, and cultural sensitivity. However, veterans experience a disruption in their educational timelines, between their high school experiences and the time they enter college. As a result, student veterans may lose skills in mathematics, writing, and study skills, which in turn may affect their academic preparedness when transitioning to college. Nevertheless, prior studies on persistence demonstrate that student veterans can make better grades than nonveterans if they are able to balance external commitments to family and work; balance financial stress; receive assistance for psychological and/or physical health concerns; and/or be awarded at least 12 credit hours or more of credit for prior learning experience. Student veterans demonstrate engagement in the academic programs more than student life. This, again, may be related to needing to balance time spent at work and family with time spent being on campus for co-curricular activities.

Research on student veteran persistence informs educational leaders and campus professionals about effective ways to reorganize or reprioritize resources to support their academic success. Using instrumentation that can be used to measure initial student

veteran commitment to persistence may allow researchers to predict commitment to institution and/or commitment to graduation.

Finally, research on student veterans may also provide guidance on effective ways to support non-traditional students and first-generation students as they share similar characteristics. Lang et al. (2013) argue that if non-traditional student completion were included, the U.S. 4-year completion rate would increase from 42% to 54% and to 75% for 6 years. Engle, Bermeo, and O'Brien (2006) state that universities can help with the successful transition of first-generation college students by building relationships and establishing trust through: raising college aspirations; assist in navigating the college admissions process; and easing the initial transition to college. For student veterans, universities should consider awarding prior learning credits; and assist in facilitating processes for deployment, re-enrollment, and transition to college life. Mutually beneficial strategies to support both groups include: connecting college to jobs or careers through inventories and speakers; addressing academic gaps and study skills through tutoring and supplemental instruction; meeting role models; making personal connections with staff; getting the whole family involved to lessen confusion and stress; and being visible in the community for serving both populations. Student veterans and first-generation students should be made aware that academic, social, financial, and family issues can make it difficult for them to succeed. Campus professionals should expect to support student veterans and first-generation students through the first year of college. Time management of academic obligations over socializing with peers and preventing financial stress (determining how many hours to work, or how much debt to assume) can be challenging for either population. Less than half (47%) of first-generation students

enroll directly from high school compared to 85% of students whose parents had college degrees. Fifty-six percent attended 2-year institutions compared to 23%. Twenty-six percent of first-generation students complete their baccalaureate degree within 8 years compared to 68% of students whose parents had college degrees. They tend not to be confident in their abilities. They are more likely to live and work off campus, take classes part-time, spend less time on campus, and need more training in financial literacy.

CHAPTER III

METHOD

Overview of Methodology

Based on the review of the literature and identification of the problems that student veterans encounter: pre-entry attributes, skills gained or lost, and various forms of student involvement, this study uses a one-group pretest-posttest design to measure a single cohort of student veterans and their persistence, or academic success. “In the one-group pretest-posttest design, a single group is measured or observed not only after being exposed to a treatment of some sort, but also before” (Fraenkel & Wallen, 2009, p. 265). It is important to use the same two samples for the pretest instrument and the posttest instrument, matching group members, in order to maintain external validity. Data representing a comparison group from the same dataset is analyzed to validate differences reported. Quantitative techniques are used to analyze descriptive data.

The researcher requested data from the Higher Education Research Institute (H.E.R.I.) at UCLA for its 2009 Cooperative Institutional Research Group (C.I.R.P.) Freshman Survey and its 2010 Your First College Year (Y.F.C.Y.) Survey for this study of secondary data. After H.E.R.I. informed the researcher that there were almost twice as many student veteran respondents (108 veterans versus 55 veterans) in the 2010 C.I.R.P. Freshman Survey/2011 Y.F.C.Y. Survey longitudinal dataset, the researcher requested data from the 2010-2011 year dataset.

Comparison groups are identified to address internal validity. Research questions, research design, and research strategies for data collection and data analysis are presented.

Correlation data are used to analyze descriptive data related to academic success of first-year student veterans in relationship to traditional students, non-traditional students, and first-generation students. Dependent t-tests are used to see if there is a difference in academic success between these groups. Further, One Way ANOVA tests are used to identify any statistical differences between academic success of student veterans/nonveterans in specific activities measured by the Y.F.C.Y. Survey instrument. One Way ANOVA is also used to identify statistical differences between the best form of involvement of student veterans/nonveterans and specific pre-entry attributes or skills gained or lost.

Research Questions

Based on the literature review, this study on student veterans answers the following three key research questions:

1. What forms of student involvement work best for student veteran academic success?
2. Are there significant mean differences in academic success that exist between student veterans and the following groups: traditional students, first-generation students, or non-traditional students?
3. What independent variables (pre-entry attributes and skills gained or lost) are most influential in predicting student veteran academic success?

Research Design

For a study of student veterans, the proposed research design uses quantitative measures to collect data through a pre-developed survey questionnaire (pretest and post-test) of the target population. For the purpose of this study, this design can be described as a secondary analysis of data. To collect valid and reliable data, the C.I.R.P. Freshman Survey and the Y.F.C.Y. Survey aggregate data are analyzed to research the topic of academic success of first-year student veterans. The Y.F.C.Y. Survey was developed in 1999 by the Cooperative Institutional Research Program (C.I.R.P.) at the Higher Education Research Institute (H.E.R.I.) at the University of California-Los Angeles (U.C.L.A.). The purpose of the instruments is to be a comprehensive longitudinal tool to assess a student's first-year experience. The Y.F.C.Y. Survey was designed to follow up with the C.I.R.P. Freshman Survey (developed in 1971) administered in the fall, which was designed to measure a student's change since matriculation. The instrument covers areas such as academic achievement and engagement, learning strategies, interactions, patterns of behavior, values, goals, satisfaction, adjustment, and feelings of personal success. Respondents of the C.I.R.P. Freshman Survey who also complete the Y.F.C.Y. Survey can be linked through their student identification number, allowing assessment over a student's first-year. In 2009, 448 out of 457 (98%) 4-year institutions had matching students from the 2008 C.I.R.P. Freshman Survey and a total of 20,848 students out of the 26,758 (78%) students who participated in the Y.F.C.Y. Survey (Ruiz, Sharkness, Kelly, DeAngelo, & Pryor, 2010). H.E.R.I. provided the researcher with 18,229 datasets, representing students who took both the 2010 C.I.R.P. Freshman Survey and 2011 Y.F.C.Y. Survey from 235 different institutions.

Population and Sampling Procedures

In the review of the literature, a variety of data sources have been utilized from qualitative methods through personal interviews or media artifacts; to quantitative methods using survey instruments or existing data. Survey instruments have been self-developed or pre-developed. Examples of secondary data sources include U.S. census data, A.C.E. research data, H.E.R.I. research data, N.S.S.E. research data, U.S. Department of Veteran Affairs data, and Beginning Postsecondary Students Longitudinal Study data.

The sample data for this study was provided by H.E.R.I., and is considered secondary data. For example, 595 individual data points representing students self-reporting veteran status were available in 2009. Pryor et al. (2009) state there were a total of 219,864 total participants in the C.I.R.P. Freshman Survey. In general, 65% or more first-year, full-time students participated from each institution, representing 4-year, low-medium-high selectivity, public and private universities. The data is weighted for norming purposes to represent the college population in America. The data is weighted for gender, institution type, and selectivity to reflect Integrated Postsecondary Education Data System (I.P.E.D.S.) profiles. The C.I.R.P. Freshman Survey (see Appendix A) is administered during registration, orientation, or during the first few weeks of classes. The Y.F.C.Y. Survey (See Appendix B) is administered at the end of the following spring semester. Since the instruments have been used for previous studies, a pilot or pretest was not necessary for this study.

In fall 2009, out of the 297 total participating institutions, 202 institutions have at least one participant claiming veteran status (Pryor et al., 2009). However, McBain et al.

(2012) report that over 500,000 student veterans have used Post-9/11 G.I. Bill educational benefits and that over 2 million additional student veterans are expected to return from Iraq and Afghanistan. The number of student veterans in each year's survey, starting with 2009, is expected to grow. H.E.R.I. reports that institutions with veterans are defined as having at least one student reporting veteran status. A study on student veteran persistence may consider a subset of schools with higher enrollment of veterans, 1% or greater, since they are more likely to offer programs and services (Cook & Kim, 2009). "If the student veteran enters a campus environment with a sizable veteran population that demonstrates similar group values, this peer group will exert a strong influence on the cognitive and affective outcomes the student experiences" (DiRamio & Jarvis, 2011, p. 31). For the purposes of this study, each student veteran response is considered regardless of the percentage of student veterans on each campus.

For the 2010 C.I.R.P. Freshman Survey/2011 Y.F.C.Y. Survey data sample, 18,229 students completed both surveys and data from each instrument are matched. There are 2,877 total first-generation students among the sample size, or 15.8%. First-generation describes students whose parents both have education attainment less than some college. The total number of non-traditional students, or students 25 years old or older among the sample size, is 85 students, or 0.4%.

Table 2

First-generation Student Veterans

	Frequency	Percent
First generation	23	21.3
Non-First generation	85	78.7
Total	108	100.0

For this study, a subset of 108 student veterans is analyzed. Twenty-one percent of the student veterans are first-generation students, see Table 2. Fourteen percent of the student veterans are non-traditional students, see Table 3.

Table 3

Non-traditional Student Veterans

	Frequency	Percent
Non-traditional	15	13.9
Traditional	93	86.1
Total	108	100.0

Instrumentation

Known survey instruments are used for this study for pre-testing and post-testing purposes. The Y.F.C.Y. Survey is optional for institutions who administer the C.I.R.P. Freshman Survey in the fall. The survey instruments are reliable and have been tested in previous studies. The data for both surveys are self-reported by respondents and is assumed to be accurate. Using the known instrument, instead of a self-developed one, yielded a broader sample size from multiple institutions and support the validity of the research design. Questions (#11, #12, #24, #29) from the C.I.R.P. Freshman Survey instrument (see Appendix A) about pre-entry attributes or skills gained or lost are listed as examples under Table 1, p. 23. Question #11 on the Freshman Survey instrument asks about Prior Learning Credits, “Since leaving high school, have you ever taken courses, whether for credit or not for credit, at any other institution?” Question #12 addresses resident or commuter student status. Question #24 asks for the best estimate of total income, re-coded to under \$20,000 or over \$20,000, used as a variable that represents

financial stress. The Freshman Survey's Question #29 scales are in the form of "Highest 10%", "Above Average", "Average", "Below Average", and "Lowest 10%". The respondent rates him/herself on traits such as "Academic Ability", "Computer Skills", "Mathematical Ability", "Emotional Health", "Physical Health", "Public Speaking Ability", or "Writing Ability." The Y.F.C.Y. Survey has questions (#2, #6, #11, and #22) for post-testing data, matching the participants' C.I.R.P. Freshman Survey data to the Y.F.C.Y. Survey response data. Three questions (#6, #11, and #22) begin, "Since entering this college, how often have you:" and lists actions or activities. Following each action or activity, answers are either "Frequently", "Occasionally", or "Not at all." Some of the actions listed include: "Studied with other students", "Contributed to class discussions", "Discussed course content with students outside of class", "Tutored another student", or "Performed volunteer work". The Y.F.C.Y. Survey Question #2 is also used; however, the variables are re-coded to the scale of the three questions above from: "Daily", "2 or 3 times per week", and "Once a week" are re-coded to "Frequently"; "1 or 2 times per month" and "1 or 2 times per term" are re-coded to "Occasionally"; and "Never" is re-coded to "Not at all."

The data collected by the C.I.R.P. Freshman Survey instrumentation also provides an opportunity to analyze for descriptive statistics in regards to measure of pre-entry attributes and skills gained or lost from the respondents. The Y.F.C.Y. Survey instrumentation collects data that is analyzed to describe the relationships the dependent variables (C.I.R.P. Freshman Survey instrumentation) have on academic success from fall semester to spring semester; and relationship between academic success and student involvement factors collected by the Y.F.C.Y. Survey.

Internal and External Validity

According to Vogt (2007), using a representative sample that increases the researcher's ability to generalize from the sample to the population supports external validity. This study utilizes instruments that have been designed for longitudinal study together and pre-tested, supporting internal validity. Vogt defines internal validity as the accuracy or relevance of the results of the study. Using factor analysis and the component matrix to develop the student involvement variables helps the researcher to better test the variable. Additionally, H.E.R.I. uses component matrices called Concept Clusters, similar to factors. However, these clusters may have been designed using components linked to traditional students rather than student veterans. In addition, the survey instrument will not allow the researcher to collect spring retention rates from Y.F.C.Y. for all participants in the C.I.R.P. Freshmen Survey (administered in the fall). The researcher will only know that the participants in the Y.F.C.Y. Survey persisted and his or her self-reported fall semester grades to operationalize academic success, college grade point average (GPA). Finally, in light of the literature review, variables of marital status, having dependents, part-time status and 2-year institutions are not available to run in a regression model format to test for additional predictor variables using the H.E.R.I. instruments.

Definitions of Study Variables

The “best forms of student involvement” and “academic success” variables are used as the dependent variables. The independent variables being used for the study are pre-entry attributes and skills gained or lost. These are C.I.R.P. Freshman Survey items which identify financial stress (annual income less than \$20,000), prior learning experience (awarded credit hours), emotional health, physical health, writing skills,

public speaking skills, academic ability, computer skills, and mathematical skills.

The best forms of student involvement variable are determined using factor analysis to reduce the number of variables to observe. A cluster of factors is identified from the following variables/questions in the Y.F.C.Y. Survey questions (#2, #6, #11 and #22) about activities since entering college, where the choices are (a) “Frequently”, (b) “Occasionally”, and (c) “Not at all”. See survey instrument in Appendix B.

All factor items have eigenvalues of over 1.0. Number of questions represent the simple structure of “forms of student involvement” used as the dependent variable, yielding a reportable table of loads. The rotated factor pattern for total component matrix demonstrate simple structure by comparison to the component matrix one item more below or one item more above the selected structure. The least number of complex loadings is achieved. A generalizable variance explained is reported. A reliability analysis produces a Cronbach’s Alpha for each factor.

The independent variables are financial stress, psychological/physical health, prior learning experience, and skills gained or lost. Dummy variables are created for nontraditional student status, veteran status, first-generation status, and financial stress (income under \$20,000), and prior learning experience for use in data analysis.

Additionally, factor analysis is used to determine pre-entry attributes and/or skills gained or lost factors from the C.I.R.P. Freshman Survey Question #29. For this study, three pre-entry attribute factors are derived from a three-component matrix to create “Academic Skills” factor, “Creative Expression Skills” factor, and “Wellness” (psychological/physical health) pre-entry attribute factor. Variables from the survey instrument (See Appendix A) are listed in Table 1, p. 23.

Assumptions and Limitations

The assumptions for the research design, instrumentation, and sampling are as follows:

1. The survey instrument is reliable and has been tested in previous studies.
2. The sample data is representative of the population of entering full-time students.
3. The target population is first-year students attending a four-year university.
4. Data reported is self-reported and should be assumed to be accurate and honest.
5. Very few veterans enter college without prior learning credits awarded for military training, most average 28 credits (Lang et al., 2013).
6. The study is using data from multiple institutions across America.

Limitations for this study include:

1. The instruments are only administered to full-time students.
2. The instruments are not administered to students attending two-year institutions.
3. The administration of the survey instrument with a question seeking veteran status was reintroduced beginning fall 2009. Therefore, longitudinal data is limited.
4. The selection of participants by each institution was determined by each institution's administration's interpretation of first-time and/or full-time student.

5. The follow-up instrument in the spring is optional for institutions to administer, some institutions may elect to only participate in using the fall instrument; take a random sample in the fall; or apply to a subset of the fall target population.
6. The survey says many times, "...compared with the average person your age", which can be interpreted differently by someone who may be older.
7. Three questions related to set of activities from the past year are geared toward recent high school graduates. Data for these questions were not analyzed.
8. Specific number of prior learning credits earned is not reported.
9. There was a disproportionate number of women (54.6%) in the subset to the actual number of women who are in the military.
10. The sample sizes for first-generation student veterans and non-traditional student veterans are less than 30 for each subgroup, limiting reliability of some of the analysis.

Data Analysis

Data analysis completed for this study included: (a) descriptive statistics; (b) One-Way ANOVA; (c) Factorial ANOVA; and (d) multiple regression. One-Way ANOVA is a hypothetical-testing procedure that is used to analyze the mean differences of two or more populations. Factorial ANOVA involves three distinct hypothesis tests. Two independent variables are tested to see if a mean difference is produced by the factors acting independently or by the two acting together, called interaction. Last, multiple regression is used to identify a model using several predictor variables to help obtain

more accurate predictions for the dependent variable (Gravetter & Wallnau, 2007).

One-Way ANOVA is used to test if there is a relationship between academic success and selected pre-entry attributes (financial stress, prior learning experience, Wellness, Creative Expression Skills, and Academic Skills) and/or Academic Integration student involvement factor. The null hypothesis is accepted or rejected based on results of the analysis. Correlation analysis is applied to independent variables' relationship to Academic Integration and academic success. Cross-tabulation analysis is applied comparing independent variables of financial stress, prior learning experience, Wellness, Creative Expression Skills, Academic Skills between comparison groups. Chi square tests determine significant distributions.

Factorial ANOVA technique is used to test for differences among variables such as pre-entry attributes, skills gained or lost, student involvement factor, and academic success as it relates to public/private institution type and commuter or residential status. Differences between traditional students, first-generation students, and non-traditional students are explored. Null hypotheses are as follows:

1. There is no difference in academic success between public and private institution type.
2. There is no interaction between student veteran status and public/private institution type.
3. There is no difference in academic success within commuter or resident student status.
4. There is no interaction between student veteran status and commuter/resident student statuses.
5. There is no difference in academic success between student veterans, first-generation status, or non-traditional students.

6. There is no interaction between financial stress, prior learning experience, or wellness; and academic integration.
7. There is no interaction between creative expression skills or academic skills; and academic integration.

The researcher rejects or fails to reject the null hypotheses based on the results of the ANOVA results.

Multiple regression is used to create a predictive model for academic success and/or academic integration involvement factor, dependent variables. The variables of pre-entry attributes and skills gained or lost are used as independent variables. Statistical Package for the Social Sciences (SPSS) software is utilized to calculate descriptive statistics, compare means, and compute regression analyses.

Regression analysis is used to explore and analyze a variety of academic success models using variables such as the best forms of student involvement factor and selected pre-entry attributes or skills gained or lost. The null hypothesis is accepted or rejected based on results of the analysis. The researcher determines if there is a statistically significant linear relationship between academic success and the set of independent variable. The study evaluated F-ratio, p-value, Beta, R and R^2 values reported.

When comparing the same students who participate in the C.I.R.P. Freshman Survey (pretest) and the Y.F.C.Y. Survey (posttest), t-tests can be used to analyze the data from the same population (when a group is measured twice). According to Vogt (2007), the t-tests can be used to study two groups that differ on one independent variable. Since the data is recorded similarly and the two groups are from the same population, variance of the means is analyzed.

CHAPTER IV

SUMMARY OF RESULTS

Overview of Findings, Data Analysis, and Discussion

This study uses quantitative techniques to identify the forms of student involvement that work best for student veterans for academic success. The intent of the study is to analyze factors that influence the transition of student veterans and to recognize positive adjustment strategies that help student veterans adapt and cope to college. The study examines the relationship of pre-entry attributes, skills gained or lost, and student involvement to academic success for first-year student veterans in comparison to first-year nonveteran students.

This chapter presents the findings and data analysis of the data from the Higher Education Research Institute (H.E.R.I.) at U.C.L.A. for its 2010 C.I.R.P. Freshman Survey/2011 Y.F.C.Y. Survey longitudinal dataset in regards to the research questions. The first section of this chapter will address demographic information about the target population. The second section presents the analysis and results for the relevant research questions. The last section summarizes the major findings and discussion.

Description of the Sample

For this study, a subset of 108 student veterans is analyzed from the 2010 C.I.R.P. Freshman Survey/2011 Y.F.C.Y. Survey data sample from 235 participating institutions. Male student veterans represent 45.4%, while female student veterans make up 54.6%, of

the target population. Different races/ethnic groups are represented: White (77.5%), Black (10.8%), Asian (8.8%), Mexican/Chicano (6.9%), Native Hawaiian/Pacific Islander (5.9%), Puerto Rican (1.0%), Other Latino (1.0%), and Other (2.9%). Those who live with their family and commute to school represent 25.4% of the population. Less than half (43.5%) attend a public institution. Those who are considered low income, making under \$20,000 income per year, represent 15.6% of the population. About one-third (29.8%) have prior learning experience where they received credit prior to attending college. A total of 18,229 first-time, full-time students completed both surveys, and data from each instrument are matched. There are 2,877 total first-generation students among the sample size; 21.9% of the student veteran population are first-generation students. First-generation describes students whose parents both have education attainment less than some college. The total number of non-traditional students, or students 25 years old or older among the sample size, is 85 students. The non-traditional students make up 13.9% of the student veteran population.

The C.I.R.P. Freshman Survey is administered during registration, orientation, or during the first few weeks of the fall semester. The Y.F.C.Y. Survey is administered at the end of the following spring semester.

Findings

Research Question 1

What forms of student involvement work best for student veteran academic success?

Student involvement is described as both student-to-student social interactions, student-to-student academic interactions, and student-faculty interactions by Astin

(1993). Overall, student involvement is a way for contact, interactions, and relationships to be built. The research study found meaningful results in analyzing the independent variables for involvement in comparison to the dependent variable of academic success, measured by grade point average from fall semester.

Factor analysis is used to determine forms of student involvement from the Y.F.C.Y. Survey questions #2, #6, #11, and #22. A number of questions represent the simple structure of the myriad forms of student involvement used as independent variables, yielding a reportable table of loads. The least number of complex loadings of seven components is derived. The rotated factor pattern for total component matrix demonstrate simple structure by comparison to the component matrix one item more below or one item more above the selected structure. Through factor analysis, 59 involvement variables were reduced to seven main involvement factors. The generalizable variance explained is 32.4%. Out of the seven components, all seven factors make sense and have minimal overlapping items and negative loads. See Appendix C. A reliability analysis produces a Cronbach's Alpha for each factor. The forms of student involvement developed for analysis include: Seek Academic Support, Academic Integration, Academic Disengagement, Community Engagement, Smoking and Drinking, Internal Peer Socialization, and Family/External Socialization. The factor analysis components and loads are shown in Tables 4-10.

Table 4

Factor Loadings for Seek Academic Supports Component

Variables (Y.F.C.Y. code)	Loads
Asked a professor for advice after class (ACT13)	.426
Received tutoring (CLSACT05)	.456
Utilize study skills advising (SERVICES01)	.593
Utilize financial aid advising (SERVICES02)	.441
Utilize student health services (SERVICES03)	.358
Utilize student psychological services (SERVICES04)	.444
Utilize writing center (SERVICES05)	.511
Utilize disability resource center (SERVICES06)	.452
Utilize career services (SERVICES07)	.436
Utilize academic advising (SERVICES08)	.421
Interact with faculty during office hours (INTERACT1)	.565
Interact with faculty outside of class or office hours (INTERACT2)	.485
Interact with academic advisors/counselors (INTERACT3)	.497

Note. Cronbach's Alpha: 0.744

Table 5

Factor Loadings for Academic Integration Component

Variables (Y.F.C.Y. code)	Loads
Contributed to class discussions (CLSACT02)	.377
Worked with classmates on group projects during class (CLSACT16)	.559
Worked with classmates on group projects outside of class (CLSACT17)	.539
Accessed your campus library resources electronically (CLSACT18)	.589
Made a presentation in class (CLSACT19)	.626
Applied concepts from courses to everyday life (CLSACT20)	.655
Used the institutions website to learn about campus resources (CLSACT21)	.655
Used the institutions course catalog (paper or online) (CLSACT22)	.595

Note. Cronbach's Alpha: 0.753

Table 6

Factor Loadings for Academic Disengagement Component

Variables (Y.F.C.Y. code)	Loads
Been bored in class (ACT02)	.467
Felt overwhelmed by all you had to do (ACT10)	.412
Felt depressed (ACT11)	.475
Come late to class (ACT17)	.482
Turned in course assignments late (CLSACT01)	.428
Skipped class (CLSACT04)	.523
Turned in course assignments that did not reflect your best work (CLSACT07)	.493
Witnessed academic dishonesty/cheating (CLSACT10)	.368
Fell asleep in class (CLSACT13)	.476
Instant messaged/text during class (CLSACT15)	.431

Note. Cronbach's Alpha: 0.652

Table 7

Factor Loadings for Community Engagement Component

Variables (Y.F.C.Y. code)	Loads
Tutored another student (ACT04)	.388
Been a guest in a professor's home (ACT06)	.367
Perform volunteer work (ACT12)	.645
Voted in a student election (ACT14)	.480
Worked on a local, state, or national political campaign (ACT15)	.504
Performed community service as part of a class (ACT19)	.548
Helped raise money for a cause or campaign (ACT24)	.652
Publicly communicated your opinion about a cause (ACT25)	.532

Note. Cronbach's Alpha: 0.667

Table 8

Factor Loadings for Smoking and Drinking Component

Variables (Y.F.C.Y. code)	Loads
Smoked cigarettes (ACT07)	.540
Drank beer (ACT08)	.854
Drank wine or liquor (ACT09)	.842

Note. Cronbach's Alpha: 0.770

Table 9

Factor Loadings for Internal Peer Socialization Component

Variables (Y.F.C.Y. code)	Loads
Studied with other students (ACT05)	.497
Socialized with someone of another racial/ethnic group (ACT16)	.476
Used the internet for research or homework (ACT18)	.433
Interact with close friends at this institution (INTERACT4)	.365

Note. Cronbach's Alpha: 0.398

Table 10

Factor Loadings for Family/External Socialization Component

Variables (Y.F.C.Y. code)	Loads
Interact with close friends not at this institution (INTERACT5)	.815
Interact with your family (INTERACT6)	.722
Interact with close friends from your high school (INTERACT8)	.799

Note. Cronbach's Alpha: 0.734

Multiple linear regression is used to analyze the dependent variable, academic success, as it relates to each student involvement factor. Table 12 shows the results for forms of student involvement factors in relationship to academic success, or grade point average, $R = .483$, $R^2 = .233$, $F(7, 97) = 4.212$, $p < .001$ (.000). The Academic Integration student involvement factor is the best forms of student involvement with Beta of 0.186. This is significant at the $p < .05$ level (.048). The model can be applied to 23.3% of cases. Therefore, for this study, the form of student involvement that works best for student veteran academic success is Academic Integration.

Other forms of student involvement such as Community Engagement, Internal Peer Socialization, or Family/External Socialization do not have a significant relationship to academic success for first-year student veterans. Both Seeking Academic Supports

and Smoking & Drinking involvement factors yield weak inverse correlations to academic success. As one would expect, Academic Disengagement has a significant, negative or inverse relationship to academic success. Through correlation analysis (Pearson) of all student veteran responses, there is a significant inverse relationship found between academic success and the following student involvement factors: Academic Disengagement ($r(69) = -.425, p < .001$) and Smoking and Drinking ($r(76) = -.244, p < .05$). There was also a significant relationship found between Community Engagement and Seek Academic Support ($r(71) = .442, p < .001$).

Table 11

*“The Student Veteran Involvement” Regression Model
Forms of Student Involvement Predictors of Academic Success*

Variable	Unstandardized Coefficients		Standardized Coefficients		
	B	SE	Beta	t	p
Constant	5.130	.789		6.50	.000
Seek academic supports	-.032	.019	-.172	-1.73	.086
Academic integration	.039	.020	.186	2.00	.048
Academic disengagement	-.080	.022	-.334	-3.57	.001
Community engagement	.014	.026	.053	.537	.593
Smoking and drinking	-.072	.038	-.177	-1.88	.063
Internal peer socialization	-.043	.046	-.090	-.942	.348
Family/External socialization	.008	.038	.020	.214	.831

Note. Dependent Variable: Grade point average scale

Academic Integration includes the following means analysis of individual variable items as it relates to academic success, the mean grade point average, see Table 12. In comparison, the total mean grade point average (GPA) scale for nonveteran students is 3.27 out of 4.00 scale for Academic Integration.

Kuh, Douglas, Lund, and Ramin-Gyurnek (1994) explain that “faculty can structure assignments that require students to illustrate how they are using class materials in other areas of their lives...[and] encourage meaningful interactions with students to learn course content” (p. 52). Active and collaborative learning promotes cooperation, team work, and civic responsibility. It increases the student’s understanding of academic expectations. Students can be asked to work on group projects during and outside of class; or to use an electronic medium to discuss or complete an assignment.

Table 12

Grade Point Average of Academic Factor Variables

Variables	<i>M</i>	<i>n</i>	<i>SD</i>
Contributed to class discussions	3.12	67	.669
Worked with classmates on group projects during class	3.08	65	.708
Worked with classmates on group projects outside of class	3.08	65	.682
Accessed your campus library resources electronically	3.11	60	.681
Made a presentation in class	3.08	64	.687
Applied concepts from courses to everyday life	3.11	63	.682
Used the institution’s website to learn about campus resources	3.09	55	.669
Used the institution’s course catalog (paper or online)	3.11	56	.671
Academic Integration Factor	3.09	72	.677

Note. Grade point average scale is out 4.00

When ANOVA analysis is conducted with the dummy variable “Contributed to class discussions” as the independent variable, the result indicates there is a difference in academic success between the group of students who have contributed to class discussions and those who have not. ANOVA was also applied to traditional student veterans and nonveterans ($F(1, 13,791) = 5.454, p = .020, \eta^2 = .006$) and first-generation

student veterans and nonveterans ($F(1, 2,124) = 19.988, p < .001, \eta^2 = .009$). The effect sizes are small, 0.6% and 0.9%, respectively.

Lang et al. (2013) reported that student veterans prefer to have an orientation program that is separate from other new students, largely due to special resources such as veteran office, employment opportunities, help with academic advising and registration, and connection to administration. The Y.F.C.Y. Survey measures level of satisfaction with orientation programs for new students. Students are asked to rate on a scale of 1-6, “6” being “Very Satisfied” and “1” being “Can’t Rate/No Experience” and “2” being “Very Dissatisfied.” The means analysis below compares the subgroups of student veterans with comparison groups of traditional, first-generation, and non-traditional students. The means analysis indicates that student veteran satisfaction (4.49) with orientation programs are most similar to first-generation students (4.69), between “Neutral” and “Satisfied”; behind satisfaction of traditional students (4.69); and more satisfied than non-traditional students (4.35). See Table 13.

Table 13

Level of Satisfaction for Orientation by Student Veterans

Student Type	<i>M</i>	<i>n</i>	<i>SD</i>
Traditional students (nonveterans)	4.69	16,336	1.08
All student veterans	4.49	94	1.25
First-generation students (nonveterans)	4.69	2,546	1.11
First-generation student veterans	4.67	21	1.02
Non-traditional students (nonveterans)	4.35	60	1.67
Non-traditional student veterans	4.55	11	1.64

Note. Scale: 1-6, “6” being “Very Satisfied”; “1” being Can’t Rate/No Experience” and “2” being “Very Dissatisfied”

Student veteran respondents are asked how challenging it is to integrate into the campus. The Y.F.C.Y. Survey Question #8 asked students to rate their integration from a scale of 1-4, “1” being “Very Difficult” to “4” being “Very Easy”. The areas include understanding expectations, developing effective study skills, adjusting to academic demands, time management, and developing close relationships with other students. Table 14 indicates the areas which are easiest and the areas which are most challenging. For student veterans, understanding academic expectations is easy, especially by non-traditional student veterans (3.73). The group that has the most difficulty developing study skills (2.55) and adjusting to academic demands (2.55) are the first-generation student veterans. Time management is a strength for all student veterans, compared to their peer groups. Socialization, or developing friendships with other students (2.82) is “Somewhat Easy” for student veterans, especially compared to non-traditional students (nonveterans). Overall, the challenge of academic integration is developing effective study skills to make up for academic skills lost.

Table 14

Challenges of Academic Integration by Student Veterans

Student type		Understand your professors' expectations	Develop effective study skills	Adjust to the academic demands	Manage your time effectively	Develop close friendships with others
Traditional students (nonveterans)	<i>M</i>	3.12	2.78	2.82	2.58	3.14
	<i>n</i>	15640	15629	15623	15635	15627
	<i>SD</i>	.689	.785	.824	.848	.876
All student veterans	<i>M</i>	3.08	2.77	2.78	2.65	3.11
	<i>n</i>	88	88	88	88	88
	<i>SD</i>	.761	.784	.903	.858	.940
First-generation students (nonveterans)	<i>M</i>	3.09	2.74	2.76	2.54	3.08
	<i>n</i>	2413	2413	2413	2415	2410
	<i>SD</i>	.713	.806	.836	.852	.879
First-generation student veterans	<i>M</i>	3.15	2.55	2.55	2.50	2.95
	<i>n</i>	20	20	20	20	20
	<i>SD</i>	.745	.686	.826	.761	.759
Non-traditional students (nonveterans)	<i>M</i>	3.22	2.97	2.97	2.57	2.66
	<i>n</i>	58	58	58	58	58
	<i>SD</i>	.773	.837	.858	.920	.947
Non-traditional student veterans	<i>M</i>	3.73	3.09	2.91	3.09	2.82
	<i>n</i>	11	11	11	11	11
	<i>SD</i>	.467	.831	1.04	.701	1.08

Note. Scale: 1-4, “4” being “Very Easy”; “1” being “Very Difficult”

While the student involvement factor of Seeking Academic Supports does not demonstrate to be a significant predictor of academic success, a closer look at utilization of academic resources, self-reported by the Y.F.C.Y. Survey respondents, indicate areas of strong or weak usage levels. This information is important to describe the level of need for further allocation of resources in each of the areas of Study Skills Advising, Writing Center, Career Services, or Academic Advising. Table 15 indicates strong utilization in the area of Academic Advising by all student veterans (2.11) and all

comparison groups (2.06). Career Services is least utilized by all groups (1.36). Non-traditional students (nonveterans) utilize all four resources the most often, supporting findings by Kim & Cole (2013) that non-traditional student veterans are less likely to receive help from support services than non-traditional student peers. The largest difference in mean utilization of Study Skills Advising is between the first-generation students (nonveterans) and first-generation student veterans (1.67 versus 1.86), with first-generation student veterans utilizing those services more. The area of greatest concern is for non-traditional student veterans who use study skills advising the least compared to peers in the traditional and first-generation student groups. In this study, non-traditional student veterans use the Writing Center “Not at all”. Intuitively, one may conclude that the academic success of this group of nonusers would be lower, however, a closer examination reveals the mean grade point scale difference for Writing Center utilizers (N=54) is 3.27 grade point scale versus non-utilizers (N=10), 3.64 grade point scale.

Table 15

Utilization of Academic Resources by Student Veterans

Student Type		Study Skills		Career Services	Academic Advising
		Advising	Writing Center		
Traditional students (nonveterans)	<i>M</i>	1.52	1.48	1.36	2.06
	<i>n</i>	16193	16202	16201	16192
	<i>SD</i>	.672	.637	.554	.556
All student veterans	<i>M</i>	1.68	1.51	1.25	2.11
	<i>n</i>	93	93	93	93
	<i>SD</i>	.754	.619	.458	.616
First-generation students (nonveterans)	<i>M</i>	1.67	1.54	1.42	2.09
	<i>n</i>	2521	2518	2522	2521
	<i>SD</i>	.714	.668	.577	.593
First-generation student veterans	<i>M</i>	1.86	1.43	1.29	2.19
	<i>n</i>	21	21	21	21
	<i>SD</i>	.793	.676	.463	.512
Non-traditional students (nonveterans)	<i>M</i>	1.73	1.57	1.37	2.23
	<i>n</i>	60	60	60	60
	<i>SD</i>	.733	.722	.637	0.563
Non-traditional student veterans	<i>M</i>	1.64	1.00	1.36	2.18
	<i>n</i>	11	11	11	11
	<i>SD</i>	.809	.000	.505	.405

Note. Scale: 1-3, “1” being “Not at all”; “2” being “Occasionally”; “3” being “Frequently”

McBain et al. (2012) urge college campuses to be ready to help with student veteran transition through specialized services and resources. Table 16 reports on utilization of student veteran services widely offered by public institutions, such as financial aid counseling, psychological services, health services, and disability services. Non-traditional students, veterans and nonveterans, utilize financial aid advising more often than traditional students (1.9 versus 1.48). Only first-generation student veterans utilize financial aid advising less than peers, this could be due in large part to veteran offices doing more for veterans and administering veteran educational benefits.

However, this may be an area to explore for future research in regards to maximum utilization of non-Veteran Affairs related benefits or financial aid awards for student veterans. Traditional students utilize health services more often than non-traditional students (1.63 versus 1.32). This may reflect less access to healthcare insurance and disproportionate number of non-traditional student commuter status versus traditional student commuters (50.8% versus 11.7%). Surprisingly, utilization of psychological services (range, 1.18-1.27) and the disability resource center (range, 1.09-1.13) is similar across the three groups.

Table 16

Utilizing Student Support Resources by Student Veterans

Student Type		Financial Aid Advising	Student Health Services	Student Psychological Services	Disability Resource Center
Traditional students (nonveterans)	<i>M</i>	1.48	1.63	1.21	1.12
	<i>n</i>	16201	16196	16175	16199
	<i>SD</i>	.616	.614	.496	.396
All student veterans	<i>M</i>	1.70	1.53	1.18	1.13
	<i>n</i>	93	93	93	93
	<i>SD</i>	.656	.618	.465	.396
First-generation students (nonveterans)	<i>M</i>	1.74	1.58	1.21	1.13
	<i>n</i>	2520	2518	2516	2520
	<i>SD</i>	.671	.633	.498	.403
First-generation student veterans	<i>M</i>	1.48	1.57	1.19	1.10
	<i>n</i>	21	21	21	21
	<i>SD</i>	.602	.598	.402	.301
Non-traditional students (nonveterans)	<i>M</i>	1.92	1.32	1.20	1.13
	<i>n</i>	60	59	60	60
	<i>SD</i>	.645	.539	.480	0.468
Non-traditional student veterans	<i>M</i>	2.0	1.09	1.27	1.09
	<i>N</i>	11	11	11	11
	<i>SD</i>	.775	.302	.647	.302

Note. Scale: 1-3, “1” being “Not at all”; “2” being “Occasionally”; “3” being “Frequently”

Research Question 2

Are there significant mean differences in academic success that exist between student veterans and the following groups: traditional students, first-generation students, or non-traditional students?

There are significant mean differences in academic success that exist between the three comparison groups of traditional students, first-generation students, and non-traditional students. First-generation is defined as students whose parents both have education attainment less than some college. Non-traditional students are students who are 25 years old or older. Cross tabulation and One-Way ANOVA analyses are used to describe mean differences within each group. Factorial ANOVA analysis is used to describe academic success mean differences within and between groups, and to determine if there is interaction effect between two groups.

Mean differences in academic success between veterans and nonveterans within each of the following groups (pre-entry attributes: prior learning experience, financial stress, and wellness). One-Way ANOVA is used to determine if further statistical analysis is needed to investigate differences amongst two or more groups. Three data subsets are analyzed: traditional students, first-generation students, and non-traditional students. Each variable is separated by nonveteran and student veteran categories. One-Way ANOVA is a hypothetical-testing procedure that is used to analyze mean differences of two populations. The following dependent variables are analyzed using One-Way ANOVA: academic success, prior learning experience, financial stress, Wellness factor, Creative Expression Skills, Academic Skills, and Academic Integration student involvement factor. Three new variables (Wellness, Creative Expression Skills, and Academic Skills) were developed using factor analysis on Question #29 of the

C.I.R.P. Freshman Survey, representing pre-entry attributes and skills gained or lost. See Research Question 3 section for more details.

A significant difference was found between traditional students (nonveterans) and traditional student veterans as it relates to the following dependent variables: academic success, $F(1, 14,638) = 3.977, p = .046, \eta^2 < .001$; prior learning experience, $F(1, 18,045) = 27.202, p < .001, \eta^2 = .002$; financial stress, $F(1, 16,433) = 5.397, p = .020, \eta^2 < .001$; and Wellness factor, $F(1, 17, 897) = 4.936, p = .026, \eta^2 < .001$. The effect sizes are very small, however, less than 1%.

A significant difference is also found between first-generation students (nonveterans) and first-generation student veterans as it relates to prior learning experience, $F(1, 2,825) = 5.017, p = .025, \eta^2 = .002$. The effect size is very small, 0.2%. There are no differences in the dependent variables of academic success, financial stress, Wellness factor, Creative Expression Skills, Academic Skills, and Academic Integration for first-generation students. For all related tests, F-ratio is not significant. We fail to reject the null hypotheses in such cases.

There are no differences between non-traditional students (nonveterans) and non-traditional student veterans for all dependent variables observed above for one-way ANOVA testing. F-ratio is not significant. We failed to reject the null hypotheses for all cases related to non-traditional students.

When analyzing the pre-entry attributes of prior learning experience, financial stress, Wellness and skills gained or lost such as Creative Expression Skills and Academic Skills, traditional student veterans are more affected by financial stress, emotional and physical health, and prior learning credit in relationship to academic

success than their nonveteran peers. This is partially supported through cross tabulation analysis. Prior learning experience significantly affects first-generation student veterans too, also supported through cross-tabulation analysis.

Cross-tabulation analysis is used to compare distribution of academic success, prior learning credit, financial stress, competitiveness (Wellness factor), cooperativeness (Wellness factor), emotional health (Wellness factor), and physical health (Wellness factor) to the variable of veteran status. Cross-tabulation is used for student veterans and nonveterans from the following groups: traditional students, first-generation students, and non-traditional students. Pearson chi-square test is reported for significant distributions. In most situations, we fail to reject the hypotheses, finding the variables to be independent from one another. However, for three cases, there is a mean difference which allowed us to reject the null hypotheses.

First, comparing traditional students and prior learning experience, we reject the null hypothesis and find there is a small significant difference between traditional student veteran status and prior learning experience, Pearson $\chi^2 (1, N=18,047) = 27.164$, $p < .001$, Cramer's $V = .039$. (0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.30.).

Second, comparing traditional student veteran status and financial stress, we reject the null hypothesis and find they are significantly related, but with a small effect size, Pearson $\chi^2 (1, N=16,435) = 5.396$, $p = .020$, Cramer's $V = .018$. (0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.54.).

Third, comparing first-generation student veteran status and prior learning experience, we reject the null hypothesis and find are significantly related, but with a small effect size, Pearson $\chi^2 (1, N=2,827) = 5.012, p = .025, \text{Cramer's } V = .042$. (1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.28.).

Student veterans share the pre-entry attribute of financial stress with first-generation nonveterans (Engle et al., 2006). The need to work more off campus jobs or spend more time with family may take away opportunities for Academic Integration, socializing with others, seeking study skills advising, or using career services. Table 17 shows us that hours spent in classes/labs and studying homework are closely commensurate among traditional, first-generation, and non-traditional student groups. The largest contrast in time spent between traditional students and non-traditional students are in the areas of off campus job (less than 1 hour compared to 6-10 hours) and household/childcare duties (less than 1 hour compared to 6-10 hours). Student veterans are less likely to get involved socially on campus due to obligations outside of school such as caring for dependents or working (household/childcare duties).

Table 17

Average Hours Per Week Spent

Student Type		In classes/ labs	Study home work	Socialize with friends	Off campus job	Student org.	House hold/ childcare duties	Social media
Traditional student (nonveterans)	<i>M</i>	6.17	5.26	5.40	1.88	2.66	1.84	4.04
	<i>n</i>	14044	14044	14033	14020	14019	14020	14030
	<i>SD</i>	1.24	1.37	1.56	1.90	1.58	1.28	1.57
All student veterans	<i>M</i>	5.96	5.04	5.05	2.78	2.30	2.59	3.79
	<i>n</i>	76	76	76	76	76	76	76
	<i>SD</i>	1.33	1.44	1.73	2.68	1.51	1.97	1.72
First-generation student (nonveterans)	<i>M</i>	5.98	5.06	5.14	2.27	2.45	2.15	4.08
	<i>n</i>	2175	2177	2175	2175	2173	2173	2174
	<i>SD</i>	1.40	1.39	1.69	2.24	1.59	1.51	1.66
First-generation student veterans	<i>M</i>	5.59	5.06	4.76	3.35	2.24	2.71	3.47
	<i>n</i>	17	17	17	17	17	17	17
	<i>SD</i>	1.84	1.95	1.76	3.02	1.39	2.02	1.94
Non-traditional student (nonveterans)	<i>M</i>	5.78	5.63	3.94	3.35	1.65	4.53	3.31
	<i>n</i>	51	51	51	51	51	51	51
	<i>SD</i>	1.49	1.54	1.65	3.01	1.41	2.40	1.63
Non-traditional student veterans	<i>M</i>	6.56	6.44	4.11	4.11	2.00	4.44	2.44
	<i>n</i>	9	9	9	9	9	9	9
	<i>SD</i>	.882	1.51	2.09	3.18	1.23	2.46	1.33

Note. Y.F.C.Y. Q20 Scale Key: 8= Over 20; 7=16-20; 6=11-15; 5=6-10; 4=3-5; 3=1-2; 2=Less than one hour; 1=None

There is a mean difference between prior learning experience and academic success, supporting the claim that students who have more prior learning credits have higher completion rates (C.A.E.L., 2010). Especially with non-traditional students who may be able to use a one course reduction in their overall class load schedule as a benefit from having prior learning credits awarded. The time gained can be reallocated to household/childcare duties or off campus job to relieve some of with financial stress.

The main effects for institution type (public/private) and commuter status (commuter/resident student status) and the interaction effect. Factorial ANOVA is used to test if there is a difference in academic success between pre-entry attributes, skills gained or lost, and student involvement factor, as it relates to public/private institution type and commuter/resident student status. Two independent variables are tested to see if there is a mean difference in academic success between the levels of each main effect and if interaction effect is significant. The independent variables that are used for Factorial ANOVA analysis are veteran status, public/private institution type, commuter/resident student status, academic integration involvement factor, financial stress, prior learning experience, wellness factor, creative expression skills, and academic skills.

A brief summary of the Factorial ANOVA analysis findings include:

- There is a difference in academic success between public/private institution types for traditional student veterans.
- There is interaction effect between student veteran status and public/private institution type for academic success (for traditional students only), for prior learning experience (for traditional and first-generation students), and for financial stress (for first-generation students only).
- There is a difference in academic success between commuter/resident student status for traditional and first-generation students.
- There is interaction between student veteran status and commuter/resident student status for academic success (for traditional and first-generation students), for prior learning experience (for first-generation students only), and for academic integration (for non-traditional students only).

- There is a difference in academic success between traditional student veterans (for financial stress, prior learning experience, wellness, academic skills), first-generation students (for prior learning experience), or non-traditional students (for wellness, creative expressions skills, and academic integration factor). This is further investigated in Research Question 3 findings.
- There is no interaction between financial stress and academic integration; prior learning experience and academic integration; or wellness and academic integration.
- There is no interaction between creative expression skills and academic integration.
- There is a difference in academic success within academic skills.

Table 18

Factorial ANOVA Summary of Findings for Academic Success and Academic Integration

Variables		Comparison Groups			$p < .05$
dependent	independent	Traditional	First-generation	Non-traditional	
Academic success	veteran				within
	public	x			between
	p-v	x			interaction
Academic success	veteran				within
	commuter	x	x		between
	c-v	x	x		interaction
Academic integration	veteran				within
	public				between
	p-v				interaction
Academic integration	veteran			x	within
	commuter			x	between
	c-v			x	interaction

Note. v=veteran; p=public; c=commuter

Table 19

Factorial ANOVA Summary of Findings for Pre-entry Attributes and Skills

Variables		Comparison Groups			$p < .05$
dependent	independent	Traditional	First-generation	Non-traditional	
Prior learning experience	veteran	x	x		within
	public	x	x		between
	p-v	x	x		interaction
Prior learning experience	veteran	x	x		within
	commuter	x	x		between
	c-v		x		interaction
Financial stress	veteran	x			within
	public				between
	p-v		x		interaction
Financial stress	veteran				within
	commuter				between
	c-v				interaction
Wellness	veteran	x			within
	public				between
	p-v				interaction
Wellness	veteran			x	within
	commuter				between
	c-v				interaction
Creative expression skills	veteran			x	within
	public			x	between
	p-v				interaction
Creative expression skills	veteran				within
	commuter				between
	c-v				interaction
Academic skills	veteran	x			within
	public				between
	p-v				interaction
Academic skills	veteran				within
	commuter				between
	c-v				interaction

Note. v=veteran; p=public; c=commuter

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and academic success as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between traditional student veterans and nonveterans.
3. There is no interaction effect between traditional student veteran status and institution type.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in academic success between traditional student veteran status and institution type. The effect size is small, 0.1%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional student veteran status is not significant, therefore we fail to reject the null hypothesis. There is no difference in academic success within traditional student veterans and nonveterans.
2. Institution type is significant, therefore the null hypothesis is rejected. There is a difference in academic success between public or private institution types, $F(1, 14,636) = 11.557, p = .001, \eta^2 = .001$.
3. An interaction effect between institution type and veteran status is significant, therefore the null hypothesis is rejected. There is an interaction between traditional student veteran status and public/private institution type for academic success, $F(1, 14,636) = 12.508, p < .001, \eta^2 = .001$.

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and academic success as it relates to commuter/resident student status. The null hypotheses are as follows:

1. There is no difference within the commuter or resident student statuses.
2. There is no difference between traditional student veteran and nonveteran statuses.
3. There is no interaction effect between traditional student veteran status and commuter/resident student status.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in academic success between traditional student veteran status and commuter/resident student status. The effect size is small, 0.1%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional student veteran status is not significant, therefore we fail to reject the null hypothesis. There is no difference in academic success within traditional student veteran and nonveteran statuses.
2. Commuter status is significant, therefore the null hypothesis is rejected. There is a difference in academic success between commuter or resident student statuses, $F(1, 13,245) = 9.710, p = .002, \eta^2 = .001$.
3. An interaction effect between institution type and traditional student veteran status is significant, therefore the null hypothesis is rejected. There is an interaction between traditional student veteran status and commuter/resident student status for academic success, $F(1, 13,245) = 11.486, p = .001, \eta^2 = .001$.

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and prior learning experience as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between traditional student veterans and nonveterans.
3. There is no interaction effect between traditional student veteran status and institution type.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in prior learning experience between traditional student veteran status and institution type. The effect size is small, 0.2%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional veteran status is significant, therefore the null hypothesis is rejected. There is a difference in prior learning experience within traditional student veterans and nonveterans, $F(1, 18,043) = 31.218, p < .001, \eta^2 = .002$.
2. Institution type is significant, therefore the null hypothesis is rejected. There is a difference in prior learning experience between public or private institution types, $F(1, 18,043) = 11.629, p = .001, \eta^2 = .001$.
3. An interaction effect between institution type and veteran status is significant, therefore the null hypothesis is rejected. There is an interaction between traditional student veteran status and public/private institution type for prior learning experience, $F(1, 18,043) = 10.227, p = .001, \eta^2 = .001$.

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and prior learning experience as it relates to commuter/resident student status. The null hypotheses are as follows:

1. There is no difference within the commuter/resident student statuses.
2. There is no difference between traditional student veteran and nonveteran statuses.
3. There is no interaction effect between student veteran status and commuter/resident student status.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in prior learning experience between traditional student veteran status and commuter/resident student status. The effect size is small, 0.1%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional student veteran status is significant, therefore the null hypothesis is rejected. There is a difference in prior learning experience within traditional student veterans and nonveterans, $F(1, 13,159) = 15.432, p < .001, \eta^2 = .001$. This is further investigated in Research Question 3 findings.
2. Commuter status is significant, therefore the null hypothesis is rejected. There is a difference in prior learning experience between commuter/resident student statuses, $F(1, 13,159) = 3.904, p = .048, \eta^2 < .001$.
3. The interaction effect between institution type and traditional veteran status is not significant, we fail to reject the null hypothesis. There is no interaction

between traditional veteran status and commuter/resident status for prior learning experience.

A two-way contingency table analysis using crosstabs is used to further evaluate relationships between traditional student veteran status at public/private institution types or among commuter/resident student statuses (row variables), and column variables of either academic success or prior learning experience categories. The sample sizes for first-generation and non-traditional students are too great in cell count frequencies less than 5 proportion to warrant valid results or conclusions.

Pearson chi-square test indicates small but significant difference among veteran status at private institutions and academic success, Pearson χ^2 (8, N=9,884) = 27.797, $p = .001$, Cramer's V = .053. (5 cells (27.8%) have expected count less than 5. The minimum expected count is .34.).

Veteran status of resident students and academic success are significantly related, but with a small effect size, Pearson χ^2 (8, N=11,677) = 24.538, $p = .002$, Cramer's V = .046. (5 cells (27.8%) have expected count less than 5. The minimum expected count is .40.)

Veteran status at public institutions and academic success are found to be significantly related, but with small effect size, Pearson χ^2 (1, N=6,778) = 32.764, $p < .001$, Cramer's V = .070.

Pearson chi-square tests indicate no significant differences among (a) veteran status at public institutions and academic success variables; (b) veteran status of commuter students and academic success variables; and (c) veteran status at private

institutions and prior learning experience variables.

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and financial stress as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between traditional student veteran and nonveteran statuses.
3. There is no interaction effect between traditional student veteran status and institution type.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in financial stress between traditional student veteran status and institution type. The effect size is small, 0.3%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional veteran status is significant, therefore the null hypothesis is rejected. There is a difference in financial stress within traditional student veterans and nonveterans, $F(1, 16,431) = 4.677, p = .031, \eta^2 < .001$. This is investigated further in Research Question 3 findings.
2. Institution type is not significant, therefore we fail to reject the null hypothesis. There is no difference in financial stress between public or private institution types.
3. The interaction effect between institution type and traditional veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no

interaction between traditional student veteran status and public/private institution type for financial stress.

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and financial stress as it relates to commuter/resident student status. We fail to reject the overall null hypothesis. There is no difference in financial stress between student veteran status and commuter/resident student status. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional student veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no difference in financial stress within traditional student veteran and nonveteran statuses.
2. Commuter status is not significant, therefore, we fail to reject the null hypothesis. There is no difference in financial stress between commuter/resident student statuses.
3. The interaction effect between commuter/resident status and traditional veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no interaction between traditional student veteran status and commuter/resident status for financial stress.

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and Wellness pre-entry attribute as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between traditional student veteran and nonveteran statuses.

3. There is no interaction effect between traditional student veteran status and institution type.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in Wellness between traditional student veteran status and institution type. The effect size is small, 0.1%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional student veteran status is significant, therefore the null hypothesis is rejected. There is a difference in Wellness pre-entry attribute within traditional student veterans and nonveterans, $F(1, 17,895) = 6.022, p = .014, \eta^2 < .001$.

This is investigated further in Research Question 3 findings.

2. Institution type is not significant, therefore, we fail to reject the null hypothesis. There is no difference in Wellness pre-entry attribute between public or private institution types.
3. The interaction effect between institution type and traditional veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no interaction between traditional student veteran status and public/private institution type for Wellness pre-entry attribute.

Factorial ANOVA technique is used to test if there is a difference between traditional student veteran status and Academic Skills gained or lost as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between traditional student veteran and nonveteran statuses.

3. There is no interaction effect between traditional student veteran status and institution type.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in Academic Skills between traditional student veteran status and institution type. The effect size is small, 0.8%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Traditional student veteran status is significant, therefore the null hypothesis is rejected. There is a difference in Academic Skills gained or lost within traditional student veterans and nonveterans, $F(1, 17,940) = 3.989$, $p = .046$, $\eta^2 < .001$. This is further investigated in Research Question 3 findings.
2. Institution type is not significant, therefore, we fail to reject the null hypothesis. There is no difference in Academic Skills gained or lost between public or private institution types.
3. The interaction effect between institution type and traditional student veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no interaction between traditional student veteran status and public/private institution type for Academic Skills gained or lost.

Factorial ANOVA technique is used to test if there is a difference between first-generation student veteran status and academic success as it relates to commuter/resident student status. The null hypotheses are as follows:

1. There is no difference within commuter/resident student statuses.

2. There is no difference between first-generation student veteran and nonveteran statuses.
3. There is no interaction effect between first-generation student veteran status and commuter/resident student status.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference between first-generation student veteran status and commuter/resident student status. The effect size is small, 0.4%. The conclusion for the two independent variables and the interaction effect is as follows:

1. First-generation student veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no difference in academic success within first-generation student veterans and nonveterans.
2. Commuter status is significant, therefore, the null hypothesis is rejected. There is a difference in academic success between commuter/resident student statuses, $F(1, 2,034) = 6.698$, $p = .010$, $\eta^2 = .003$.
3. The interaction effect between commuter/resident status and first-generation student veteran status is significant, therefore, the null hypothesis is rejected. There is an interaction between first-generation student veteran status and commuter/resident status for academic success, $F(1, 2,034) = 5.128$, $p = .024$, $\eta^2 = .003$.

Factorial ANOVA technique is used to test if there is a difference between first-generation student veteran status and prior learning experience as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between first-generation student veteran and nonveteran statuses.
3. There is no interaction effect between first-generation student veteran status and institution type.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in prior learning experience between first-generation student veteran status and institution type. The effect size is small, 0.04%. The conclusion for the two independent variables and the interaction effect is as follows:

1. First-generation student veteran status is significant, therefore the null hypothesis is rejected. There is a difference in prior learning experience within first-generation student veterans and nonveterans, $F(1, 2,823) = 5.809$, $p = .016$, $\eta^2 = .002$.
2. Institution type is significant, therefore, the null hypothesis is rejected. There is a difference in prior learning experience between public or private institution types, $F(1, 2,823) = 5.233$, $p = .022$, $\eta^2 = .002$.
3. The interaction effect between institution type and first-generation student veteran status is significant, therefore, the null hypothesis is rejected. There is an interaction between first-generation student veteran status and public/private institution type for prior learning experience, $F(1, 2,823) = 4.301$, $p = .038$, $\eta^2 = .002$.

Factorial ANOVA technique is used to test if there is a difference between first-generation student veteran status and prior learning experience as it relates to commuter/resident student status. The null hypotheses are as follows:

1. There is no difference within the commuter/resident student statuses.
2. There is no difference between first-generation student veteran and nonveteran statuses.
3. There is no interaction effect between first-generation student veteran status and commuter/resident student status.

The Factorial ANOVA summary of results are below:

The overall null hypothesis is rejected. There is a difference in prior learning experience between first-generation student veteran status and commuter/resident status.

The effect size is small, 0.9%. The conclusion for the two independent variables and the interaction effect is as follows:

1. First-generation student veteran status is significant, therefore the null hypothesis is rejected. There is a difference in prior learning experience within first-generation student veterans and nonveterans, $F(1, 2,021) = 9.944$, $p = .002$, $\eta^2 = .005$.
2. Commuter status is significant, therefore, the null hypothesis is rejected. There is a difference in prior learning experience between commuter or resident statuses, $F(1, 2,021) = 12.374$, $p < .001$, $\eta^2 = .006$.
3. The interaction effect between commuter/resident status and first-generation student veteran status is significant, therefore, the null hypothesis is rejected. There is an interaction between first-generation student veteran status and

commuter/resident status for prior learning experience, $F(1, 2,021) = 13.457$, $p < .001$, $\eta^2 = .007$.

Factorial ANOVA technique is used to test if there is a difference between first-generation student veteran status and financial stress as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between first-generation student veteran and nonveteran statuses.
3. There is no interaction effect between first-generation student veteran status and institution type.

The Factorial ANOVA summary of results are in Table 20.

Table 20

Factorial ANOVA—First-generation Student Veteran/Public Institution Type Effects on Financial Stress

Source	SS	df	MS	F	<i>p</i>	η^2
Between Groups	7.435 ^a	3	2.478	14.081	.000	.016
VETERAN_TFS	.053	1	.053	.301	.584	.000
PUBLIC	.420	1	.420	2.385	.123	.001
VETERAN_TFS * PUBLIC	1.251	1	1.251	7.109	.008	.003
Error	465.2	2643	.176			
Total	472.6	2646				

The overall null hypothesis is rejected. There is a difference in financial stress between first-generation student veteran status and institution type. The effect size is

small, 1.6%. The conclusion for the two independent variables and the interaction effect is as follows:

1. First-generation student veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no difference in financial stress within first-generation student veterans and nonveterans.
2. Institution type is not significant, therefore, we fail to reject the null hypothesis. There is no difference in financial stress between public or private institution types.
3. The interaction effect between institution type and first-generation student veteran status is significant, therefore, the null hypothesis is rejected. There is an interaction between first-generation student veteran status and public/private institution type for financial stress, $F(1, 2,643) = 7.109$, $p = .008$, $\eta^2 = .003$.

Factorial ANOVA technique is used to test if there is a difference between non-traditional student veteran status and Wellness pre-entry attribute as it relates to commuter/resident status. The null hypotheses are as follows:

1. There is no difference within commuter/resident student statuses.
2. There is no difference between non-traditional student veteran and nonveteran statuses.
3. There is no interaction effect between non-traditional student veteran status and commuter/resident student status.

The Factorial ANOVA summary of results are in Table 21.

Table 21

Factorial ANOVA—Non-traditional Student Veteran/Commuter Status Effects on Wellness Pre-Entry Attribute

Source	SS	df	MS	F	<i>p</i>	η^2
Between Groups	34.596 ^a	3	11.532	1.794	.160	.095
VETERAN_TFS	28.582	1	28.582	4.446	.040	.080
COMMUTER	6.857	1	6.857	1.067	.307	.020
VETERAN_TFS * COMMUTER	8.047	1	8.047	1.252	.268	.024
Error	327.84	51	6.428			
Total	362.44	54				

The overall null hypothesis is rejected. There is a difference in Wellness between non-traditional student veteran status and commuter/resident status. The effect size is 9.5%. The conclusion for the two independent variables and the interaction effect is:

1. Non-traditional student veteran status is significant, therefore, the null hypothesis is rejected. There is a difference in Wellness pre-entry attribute within non-traditional student veterans and nonveterans, $F(1, 51) = 4.446$, $p = .040$, $\eta^2 = .080$.
2. Commuter status is not significant, therefore, we fail to reject the null hypothesis. There is no difference in Wellness pre-entry attribute between commuter or resident statuses.
3. The interaction effect between commuter/resident status and non-traditional student veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no interaction between non-traditional student veteran status and commuter/resident status for Wellness pre-entry attribute.

Factorial ANOVA technique is used to test if there is a difference between non-traditional student veteran status and Creative Expression Skills gained or lost as it relates to public/private institution type. The null hypotheses are as follows:

1. There is no difference within the institution types.
2. There is no difference between non-traditional student veteran and nonveteran statuses.
3. There is no interaction effect between non-traditional student veteran status and institution type.

The Factorial ANOVA summary of results are in Table 22.

Table 22

Factorial ANOVA—Non-traditional Student Veteran/Public Institution Type Effects on Creative Expression Skills

Source	SS	df	MS	F	<i>p</i>	η^2
Between Groups	58.824 ^a	3	19.608	2.714	.051	.097
VETERAN_TFS	30.627	1	30.627	4.239	.043	.053
PUBLIC	48.780	1	48.780	6.751	.011	.082
VETERAN_TFS * PUBLIC	18.704	1	18.704	2.588	.112	.033
Error	549.163	76	7.226			
Total	607.988	79				

The overall null hypothesis is rejected. There is a difference in Creative Expression Skills between non-traditional student veteran status and institution type. The effect size is 9.7%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Non-traditional student veteran status is significant, therefore, the null hypothesis is rejected. There is a difference in Creative Expression Skills within non-traditional student veterans and nonveterans, $F(1, 76) = 4.239$, $p = .043$, $\eta^2 = .053$. This is investigated further in Research Question 3 findings.
2. Institution type is significant, therefore, the null hypothesis is rejected. There is a difference in Creative Expression Skills between public or private institution types, $F(1, 76) = 6.751$, $p = .011$, $\eta^2 = .082$.
3. The interaction effect between institution type and non-traditional student veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no interaction between non-traditional student veteran status and public or private institution type for Creative Expression Skills.

Factorial ANOVA technique is used to test if there is a difference between non-traditional student veteran status and Academic Integration involvement factor as it relates to commuter/resident student status. The null hypotheses are as follows:

1. There is no difference within commuter or resident student statuses.
2. There is no difference between non-traditional student veteran and nonveteran statuses.
3. There is no interaction effect between non-traditional student veteran status and commuter/resident status.

The Factorial ANOVA summary of results are in Table 23.

Table 23

Factorial ANOVA—Non-traditional Student Veteran/Commuter Status Effects on Academic Integration

Source	SS	df	MS	F	<i>p</i>	η^2
Between Groups	46.384 ^a	3	15.461	1.804	.159	.101
VETERAN_TFS	.649	1	.649	.076	.784	.002
COMMUTER	36.205	1	36.205	4.225	.045	.081
VETERAN_TFS * COMMUTER	43.374	1	43.374	5.061	.029	.095
Error	411.366	48	8.570			
Total	457.750	51				

The overall null hypothesis is rejected. There is a difference in Academic Integration between non-traditional student veteran status and commuter/resident student status. The effect size is 10.1%. The conclusion for the two independent variables and the interaction effect is as follows:

1. Non-traditional student veteran status is not significant, therefore, we fail to reject the null hypothesis. There is no difference in Academic Integration within non-traditional student veterans and nonveterans.
2. Commuter status is significant, therefore, the null hypothesis is rejected. There is a difference in Academic Integration between commuter or resident student statuses, $F(1, 48) = 4.225$, $p = .045$, $\eta^2 = .081$.
3. The interaction effect between commuter status and non-traditional student veteran status is significant, therefore, the null hypothesis is rejected. There is an interaction between non-traditional student veteran status and

commuter/resident student statuses for Academic Integration involvement factor, $F(1, 48) = 5.061$, $p = .029$, $\eta^2 = .095$.

Research Question 3

What independent variables (pre-entry attributes and skills gained or lost) are most influential in predicting student veteran academic success?

Tinto (1993) suggests there exists characteristics that students possess prior to attending college that may affect academic success, or persistence. The independent variables for this study are prior learning experience, financial stress, Wellness factor, Creative Expression Skills, and Academic Skills are explored in analyzing a variety of predictive models for academic success in relationship to pre-entry attributes. Variables from the survey instrument (see Appendix A) are listed in Table 1, p. 23.

Meaningful results are found in analyzing the independent variables in comparison to the dependent variable of academic success, measured by grade point average from fall semester or the dependent variable for involvement, or Academic Integration.

Factor analysis is used to determine a smaller number of pre-entry attribute variables from among 16 variables in the C.I.R.P. Freshman Survey Question #29, "Rate yourself on each of the following traits..." A number of questions represent the simple structure of the myriad forms of pre-entry attributes used as independent variables, yielding a reportable table of loads. The least number of complex loadings of three components is derived. The rotated factor pattern for total component matrix demonstrate simple structure by comparison to the component matrix one item more below or one item more above the selected structure. The 16 variables were reduced to three factors.

The generalizable variance explained is 47.0%. The three resulting components make sense and have minimal overlapping items, see Table 24.

Table 24

Rotated Component Matrix: Pre-entry Attributes

Pre-entry Attribute Variables	Component		
	1	2	3
Self Rating: Academic ability			.821
Self Rating: Competitiveness	.529		
Self Rating: Computer skills			.355
Self Rating: Cooperativeness	.398		
Self Rating: Creativity		.659	
Self Rating: Drive to achieve	.394		.399
Self Rating: Emotional health	.699		
Self Rating: Leadership ability	.536	.376	
Self Rating: Mathematical ability			.752
Self Rating: Physical health	.669		
Self Rating: Public speaking ability		.533	
Self Rating: Self-confidence (intellectual)	.416	.380	.497
Self Rating: Self-confidence (social)	.696	.341	
Self Rating: Self-understanding	.492	.453	
Self Rating: Understanding of others		.526	
Self Rating: Writing ability		.686	

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 8 iterations.

A reliability analysis produces a Cronbach's Alpha for each factor. The pre-entry attribute factors developed for analysis include: Wellness factor, Creative Expression Skills, and Academic Skills. The factor analysis components and loads are shown in Tables 25-27.

Table 25

Factor Loadings for Wellness Component

Variables (C.I.R.P. Freshman Survey code)	Loads
Competitiveness (RATE03_TFS)	.529
Cooperativeness (RATE05_TFS)	.398
Emotional health (RATE08_TFS)	.699
Physical health (RATE11_TFS)	.669

Note. Cronbach's Alpha: 0.579

Table 26

Factor Loadings for Creative Expression Skills Component

Variables (C.I.R.P. Freshman Survey code)	Loads
Creativity (RATE06_TFS)	.659
Public speaking ability (RATE13_TFS)	.533
Understanding of others (RATE18_TFS)	.526
Writing ability (RATE19_TFS)	.686

Note. Cronbach's Alpha: 0.572

Table 27

Factor Loadings for Academic Skills Component

Variables (C.I.R.P. Freshman Survey code)	Loads
Academic ability (RATE01_TFS)	.821
Computer skills (RATE04_TFS)	.355
Mathematical ability (RATE10_TFS)	.752

Note. Cronbach's Alpha: 0.526

Multiple linear regression is used to analyze the dependent variable academic success as it relates to the pre-entry attribute factors. Table 28 shows the results for pre-entry attribute factors compared to academic success, or grade point average, $R = .315$, $R^2 = .099$, $F = 3.807$, $p < .05$ level (.012). For the Academic Skills pre-entry attribute

factor, the null hypothesis is rejected, there is a linear relationship between academic success and the Academic Skills factor. This is significant at the $p < .05$ level (.049), Beta = .206. The other pre-entry attribute factors, Wellness factor and Creative Expression Skills, do not have a significant linear relationship to academic success for first-year student veterans. The model can be applied to 9.9% of cases. Therefore, for this study, the pre-entry attribute of Academic Skills is most influential in predicting student veteran academic success, among the three.

Table 28

C.I.R.P. Freshman Survey Q29 Predictor Variables for Academic Success

Variable	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	B	SE	Beta		
Constant	1.838	.405		4.534	.000
Wellness	.011	.026	.048	.439	.661
Creative expression skills	.030	.023	.141	1.318	.190
Academic skills	.067	.034	.206	1.990	.049

Note. Dependent Variable: Grade point average scale

When the predictive regression model for academic success is run again with the additional pre-entry attribute variables for prior learning experience and financial stress, Academic Skills continue to be statistically significant at predicting academic success. Within the Academic Skills factor are the independent variables of academic ability, computer skills, and mathematical skills. We fail to reject the null hypotheses for variables: Wellness, Creative Expression Skills, Prior Learning Credit, and Financial Stress ($p > .05$). The null hypothesis is rejected for Academic Skills, $p < .05$ level (.042),

Beta = .216. There is a significant linear relationship between student veteran academic success and Academic Skills gained or lost. For the model, $R = .336$, $R^2 = .113$, $F = 2.592$, $p < .05$ level (.030), see Table 29.

Table 29

*“The Student Veteran Pre-entry Attributes and Skills” Regression Model
Pre-entry Attributes and Skills Predictor Variables for Academic Success*

Variable	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	B	SE	Beta		
Constant	1.901	.416		4.571	.000
Wellness	.009	.026	.038	.345	.731
Creative expression skills	.025	.024	.115	1.057	.293
Academic skills	.070	.034	.216	2.061	.042
Financial stress	-.142	.163	-.085	-.871	.386
Prior learning experience	.126	.121	.099	1.034	.303

Note. Dependent Variable: Grade point average scale

Next, we similarly test for a predictive regression model for Academic Integration involvement factor as the dependent variable using the same independent variables representing pre-entry attributes and skills gained or lost. The model has $R = .272$, $R^2 = .074$, $F = 1.629$, $p > .05$ level (.159). We fail to reject the null hypothesis for all the variables presented. There is no linear relationship between Academic Integration student involvement factor and the variables of financial stress, creative expression skills, academic skills, wellness, or prior learning experience, see Table 30.

Table 30

Pre-entry Attributes and Skills Predictor Variables for Academic Integration

Variable	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	B	SE	Beta		
Constant	14.968	2.007		7.46	.000
Wellness	.140	.128	.125	1.09	.277
Creative expression skills	.183	.114	.180	1.61	.110
Academic skills	-.228	.164	-.148	-1.39	.169
Financial stress	1.500	.788	.190	1.90	.060
Prior learning experience	-.684	.586	-.114	-1.17	.246

Note. Dependent Variable: Academic Integration

Using correlation analysis (Pearson) to analyze pre-entry attributes, the following significant relationship is found between: Wellness factor and academic success (.237, $p < .05$); Creative Expression Skills and academic success (.302, $p < .01$); Academic Skills and academic success (.365, $p < .01$); Wellness factor and financial stress (-.231, $p < .05$); Wellness factor and Academic Skills (.401, $p < .01$); Wellness factor and Creative Expression Skills (-.460, $p < .01$); and Academic Skills and Creative Expression Skills (.347, $p < .01$).

Correlation analysis (Pearson) is also used to analyze pre-entry attributes and Academic Integration student involvement factor. The results indicate no significant relationship between pre-entry attributes and Academic Integration involvement factor.

Finally, Factorial ANOVA analysis is used to test if there is a difference between Academic Integration involvement factor and academic success as it relates to Academic Skills gained or lost, the findings indicate there is a difference in academic success between Academic Integration involvement factor and Academic Skills gained or lost.

The effect size is 66.4%. The Factorial ANOVA summary of results is found on Table 31. The conclusion for the two independent variables and the interaction effect is as follows:

1. Academic Integration factor is not significant, therefore, we fail to reject the null hypothesis. There is no difference in academic success within Academic Integration factor.
2. Academic Skills is significant, therefore, the null hypothesis is rejected. There is a difference in academic success between Academic Skills gained or lost factor.
3. An interaction effect between Academic Skills and Academic Integration factor is not significant, therefore, we fail to reject the null hypothesis. There is no interaction between Academic Integration factor and Academic Skills gained or lost for academic success.

Table 31

Factorial ANOVA—Academic Integration/Academic Skills Effects on Academic Success

Source	SS	df	MS	F	<i>p</i>	η^2
Between Groups	21.163 ^a	42	.504	1.221	.298	.664
Academic Integration	6.439	13	.495	1.201	.333	.375
Academic Skills	7.727	7	1.104	2.676	.032	.419
Academic Integration * Academic Skills	8.525	22	.388	.939	.555	.443
Error	10.726	26	.413			
Total	31.889	68				

Since there is a difference between academic success and Academic Skills factor, we can use regression analysis to examine whether one of the variables that make up the Academic Skills factor has a significant linear relationship with academic success too. The model has $R = .295$, $R^2 = .087$, $F(3, 104) = 3.304$, $p = .023$, see Table 32. We may conclude that the Academic Ability variable has a significant linear relationship to academic success at the $p < .05$ level (.037), $Beta = .212$. The model can be applied to 8.7% of cases.

Table 32

Academic Skills Factor Predictor Variables for Academic Success

Variable	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	B	SE	Beta		
Constant	2.064	.349		5.915	.000
Academic ability_TFS	.178	.084	.212	2.112	.037
Computer skills_TFS	.062	.065	.090	.945	.347
Mathematical ability_TFS	.056	.053	.104	1.054	.295

Note. Dependent Variable: Grade point average scale

When comparing traditional student veteran status and academic, we reject the null hypothesis and find they are significantly related, but with a small effect size, Pearson $\chi^2(4, N=17,998) = 13.344$, $p = .010$, Cramer's $V = .027$. (2 cells (20.0%) have expected count less than 5. The minimum expected count is .06.). There are more "Average" to "Above Average" student veterans than nonveterans, 84.9% versus 74.9%. When analysis of Academic Ability self-rating from the C.I.R.P. Freshman Survey is correlated with Academic Ability self-rating from the Y.F.C.Y. Survey, the results indicate that both student veterans and nonveterans become less confident in their

Academic Ability; their mean scores drop from 3.99 to 3.86 for nonveterans, and from 3.78 to 3.55 for student veterans. A self-rating of “4” is considered “Above Average”. Scores for both groups are significant at the $p < .01$ level, with a Pearson’s coefficient of .553 for nonveterans and .586 for student veterans.

When analyzing academic ability, high school grades may also be compared as a predictor variable for academic success. The mean score for grades for nonveterans increased slightly from 6.62 to 6.78. A score of “6” is a “B” and a “7” is a “B+”. The mean score for grades for student veterans increased from 5.74 in high school to 6.38 after fall term. Table 33 indicates that high school grades is a predictor variable for academic success for student veterans. The model has $R = .311$, $R^2 = .097$, $F(1, 106) = 11.347$, $p = .001$, $Beta = .311$.

Table 33

High School Grades Predictor Variable for Academic Success

Variable	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	B	SE	Beta		
Constant	2.507	.191		13.160	.000
What was your average grade in high school?	.107	.032	.311	3.368	.001

Note. Dependent Variable: Grade point average scale

Summary

In this study, quantitative measures are used to analyze data collected through pre-developed survey instruments (pretest and posttest design). The study is a secondary analysis of data. The 2010 C.I.R.P. Freshman Survey/2011 Your First College Year

Survey longitudinal dataset is analyzed to determine the relationship of pre-entry attributes, skills gained or lost, and student involvement to first-year student veteran academic success. Comparison groups of traditional, first-generation, and non-traditional students are analyzed for significant mean differences. Predictor variables are determined for student involvement and the skills gained or lost, from the “Student Veteran Involvement” regression model and the “Student Veteran Pre-entry Attributes and Skills” regression model.

Research Question 1

What forms of student involvement work best for student veteran academic success?

Factor analysis is used to reduce 59 involvement variables to 7 factors: Seek Academic Support, Academic Integration, Academic Disengagement, Community Engagement, Smoking and Drinking, Internal Peer Socialization, and Family/External Socialization. There is a significant linear relationship between Academic Integration involvement factor and academic success for student veterans, $p < .05$ level (.048), Beta = .186. The Academic Integration involvement factor includes activities such as contributing to class discussions, working with classmates on group projects, making presentations in class, and accessing campus resources, library resources, and catalog information electronically.

Research Question 2

Are there significant mean differences in academic success that exist between student veterans and the following groups: traditional students, first-generation students, or non-traditional students?

Significant mean differences are found for traditional students, first-generation students, and non-traditional students. A significant difference was found between traditional students (nonveterans) and traditional student veterans as it relates to the following dependent variables: academic success, prior learning credit, financial stress, and Wellness factor. A significant difference is also found between first-generation students (nonveterans) and first-generation student veterans as it relates to prior learning credits. There are no differences between non-traditional students (nonveterans) and non-traditional student veterans for all pre-entry attributes and skills for one-way ANOVA testing.

When Factorial ANOVA is used to analyze mean differences among the comparison groups, the following significant findings are determined:

- There is a difference in academic success between public/private institution types for traditional student veterans.
- There is interaction effect between student veteran status and public/private institution type for academic success (for traditional students only), for prior learning experience (for traditional and first-generation students), and for financial stress (for first-generation students only).
- There is a difference in academic success between commuter/resident student status for traditional and first-generation students.
- There is interaction effect between student veteran status and commuter/resident student statuses for academic success (for traditional and first-generation students), for prior learning experience (for first-generation students only), and for academic integration (for non-traditional students only).

- There is a difference in academic success between traditional student veterans (for financial stress, prior learning experience, wellness, academic skills), first-generation students (for prior learning experience), or non-traditional students (for wellness, creative expressions skills, and academic integration factor).
- There is no interaction between financial stress and academic integration; prior learning experience and academic integration; or wellness and academic integration.
- There is no interaction between creative expression skills and academic integration.
- There is a significant difference in academic success within academic skills.

Research Question 3

What independent variables (pre-entry attributes and skills gained or lost) are most influential in predicting student veteran academic success?

Factor analysis is applied to reduce 16 pre-entry attributes and skills to three factors: Wellness, Creative Expression Skills, and Academic Skills. There is a linear relationship between Academic Skills factor and academic success for student veterans, $p < .05$ level (.042), Beta = .216. The Academic Skills factor includes academic ability, computer skills, and mathematical skills. However, Academic Skills factor and Academic Integration factor do not have interaction between them as it relates to academic success.

CHAPTER V
SUMMARY, CONCLUSIONS, IMPLICATIONS,
AND RECOMMENDATIONS

Overview of the Study

This study will help prepare colleges, universities, and major stakeholders of student veteran services for the increasing number of student veteran population. McBain et al. (2012) report that more than 500,000 student veterans have utilized the Post-9/11 G.I. Bill benefits and more than two million are in the process of being brought home from Iraq and Afghanistan. Student veterans have been entering colleges at 4-year and 2-year institutions, and private and public institutional types. This phenomenon has reflected the historical influence of the G.I. Bill since the original, the Servicemen's Readjustment Act of 1944, on the mass higher education era and broader opportunities to access higher education for all. The study explored variables of pre-entry attributes, skills gained or lost, and student involvement from the literature and their relationship to academic success for student veterans in comparison to nonveteran students during the first year of college. Given the complexity of the conceptualization of persistence, the study gave consideration that student veterans present characteristics similar to first-generation and non-traditional students (Atwell, 1999; Barnhart, 2011; Frederiksen & Schrader, 1950; Kim & Cole, 2013; Lang et al., 2013), also comparing the analysis of independent variables for these additional nonveteran subgroups. Specifically, research

on the effects of pre-entry attributes (Gauntner, 1981; Atwell, 1999; Sargent, 2009; McBain et al., 2012; Cook & Kim, 2009; DiRamio et al., 2008; Tanielian & Jaycox, 2008; C.A.E.L., 2010; Land & Powers, 2011), skills gained or lost (DiRamio & Jarvis, 2011; Pryor et al., 2009; Kim & Cole, 2013), and student involvement (Astin, 1993; Tinto, 1993; Hurtado & Carter, 1997; Kuh et al., 1994; Seidman, 2005; Spady, 1970) during transition to college better informs campus professionals and educational leaders about the best forms of involvement for academic success and inconsistencies in current policies

It is necessary to study this emerging special population more closely to promote higher completion rates, provide faculty and professional staff with the strategies necessary for effective support programs, and to address academic and social transitional needs that impact this group's persistence and academic success. The findings of this study can be incorporated into decision making processes for institutions to better reallocate resources.

Research Problem

Educational leaders and campus professionals need to make a commitment to provide the necessary resources and develop a strategic plan that includes the student veteran population. The problem is the academic success of student veterans and removing the barriers for access and the barriers that cause attrition.

Previous military experience helps student veterans gain skills in communication, interpersonal skills, leadership ability, and cultural sensitivity. However, veterans experience a disruption in their educational timelines between their high school experiences and the time they enter college. As a result, student veterans lose skills in

mathematics, writing, computer skills, and study skills, which in turn may affect their academic preparedness when transitioning to college.

Research on pre-entry attributes that most influence student veteran academic success and what forms of involvement work best for student veterans increases the support for programs and resources. A greater number of multi-institutional studies, comparing student veterans to populations with higher student veteran enrollment is needed. It is necessary to determine what forms of student involvement, either academic or social, best work for student veterans.

Efforts of campus professionals need to be coordinated and prioritized in order to better serve and increase the academic success and retention rate of student veterans. Campus professionals need to examine pre-entry attributes and skills gained or lost of first-year student veterans and identify the supports that they utilize. Different forms of student involvement need to be evaluated to better inform educational leaders, faculty, and staff about effective ways to help student veteran academic success.

Purpose of the Study

This study focused on the relationship of pre-entry attributes and skills to adjustment to the first year of college as it related to academic achievement. Issues related to financial aid (American Council on Education, 2008), post-traumatic stress disorder and traumatic brain injury (Tucker et al., 2005), dealing with inappropriate questions from civilians, the need to relate better to other veterans, and retention issues related to stop-outs and delays in benefits are still in play. Using a quantitative approach, this study identified what form of involvement works best for the academic success of student veterans. The intent of the study was to analyze factors that influence the

transition of student veterans. Schlossberg's Transition Framework variables (Goodman et al., 2006) guided this study to better understand and recognize positive adjustment strategies that help student veterans effectively adapt and cope to college.

The purpose of this study was to examine the relationship of pre-entry attributes, skills gained or lost, and student involvement to first-year academic success for first-year student veterans in comparison to first-year nonveteran students.

Description of the Sample

The sample data for this study was provided by the Higher Education Research Institute (H.E.R.I.) at U.C.L.A. and is considered secondary data. In general, 65% or more first-year, full-time students participated among 235 institutions, representing 4-year, low-medium-high selectivity, public and private universities. The C.I.R.P. Freshman Survey (see Appendix A) was administered during registration, orientation, or during the first few weeks of classes. The Y.F.C.Y. Survey (See Appendix B) was administered at the end of the following spring semester.

For the purposes of this study, each student veteran participant's response was considered regardless of the percentage of student veterans of the campus's population. For the 2010 C.I.R.P. Freshman Survey/2011 Y.F.C.Y. Survey data sample, 18,229 students completed both surveys and data from both instruments were matched. There were 2,877 matched first-generation students among the sample size. First-generation described students whose parents both had education attainment less than some college. The total number of non-traditional students, or students 25 years-old or older, matched among the sample size is 85 students.

For this study, a subset of 108 student veterans was analyzed. The student veterans answered “Yes” to the question: “Do you currently have veteran status with the U.S. Armed Forces, Military Reserves or National Guard?” Twenty-one percent of the student veterans were first-generation students. Fourteen percent of the student veterans were non-traditional students. Male student veterans represented 45.4% of the data subset. White student veterans (77.5%) out-numbered non-Whites more than three to one. Less than half of the student veteran participants, or 43.5%, attended a public institution; and one out of four, or 25.4%, lived with their family and commuted to school.

Summary of Methodology

Based on the review of the literature and identification of the problems that student veterans encounter—pre-entry attributes, skills gained or lost, and various forms of student involvement—this study used a one-group pretest-posttest research design to measure a single cohort of student veterans and their academic success. Data representing a comparison group from the same dataset was analyzed to validate differences reported. Factor analysis was used to reduce the number of variables significantly for pre-entry attributes and skills gained or lost; and student involvement. Quantitative techniques such as means, correlation, and cross tabulation analysis were used to analyze descriptive data as it related to academic success. One-Way ANOVA and Factorial ANOVA analyses were used to identify significant mean differences and interaction effect between groups. Multiple linear regression analysis was used to test predictor variables for academic success and predictor variables for student involvement.

Limitations for this study included:

1. The instruments were only administered to full-time students.

2. The instruments were not administered to students attending 2-year institutions.
3. Student veterans enrolled in predominantly commuter campuses, while only 25.4% of the dataset were commuter students.
4. The selection of participants by each institution was determined by each institution's administration's interpretation of first-time and/or full-time student.
5. The follow-up instrument in the spring was optional for institutions to administer, some institutions may have elected to only participate in using the fall instrument, take a random sample in the fall, or apply to a subset of the fall target population.
6. The survey said many times, "...compared with the average person your age", which could be interpreted differently by someone who might be older.
7. The percent of non-traditional students who were student veterans (14%) was disproportionate to the number reported nationally (85%) (Radford & Wun, 2009).
8. Specific number of prior learning credits earned was not reported.
9. There was a disproportionate number of women (54.6%) in the subset to the actual number of women representing student veterans nationally (27%) (Radford & Wun, 2009).
10. The sample sizes for first-generation student veterans and non-traditional student veterans were less than 30 for each group, limiting reliability of some of the analysis.

Summary of Findings

In this study, quantitative measures were used to analyze data collected through pre-developed survey instruments (pretest and posttest design). The study was a secondary analysis of data. The 2010 C.I.R.P. Freshman Survey/2011 Your First College Year Survey longitudinal dataset was analyzed to determine the relationship of pre-entry attributes, skills gained or lost, and student involvement to first-year student veteran academic success. Comparison groups of traditional, first-generation, and non-traditional students were analyzed for significant mean differences. Predictor variables were determined for student involvement and the skills gained or lost, from the “Student Veteran Involvement” regression model and the “Student Veteran Pre-entry Attributes and Skills” regression model.

Research Question 1

What forms of student involvement work best for student veteran academic success?

This study defined what student involvement is for student veterans. Factor analysis was used to reduce 59 involvement variables to 7 factors: Seek Academic Support, Academic Integration, Academic Disengagement, Community Engagement, Smoking and Drinking, Internal Peer Socialization, and Family/External Socialization.

The “Student Veteran Involvement” regression model was a significant finding where $R = .483$, $R^2 = .233$, $F = 4.212$, $p < .001$ level (.000), see Table 11. The null hypothesis was rejected. There was a significant linear relationship between Academic Integration involvement factor and academic success for student veterans, $p < .05$ level (.048), $Beta = .186$. The Academic Integration involvement factor included activities

such as contributing to class discussions, working with classmates on group projects, making presentations in class, and accessing campus resources, library resources, and catalog information electronically.

Research Question 2

Are there significant mean differences in academic success that exist between student veterans and the following groups: traditional students, first-generation students, or non-traditional students?

Significant mean differences were found for traditional students, first-generation students, and non-traditional students. A significant difference was found between traditional students (nonveterans) and traditional student veterans as it relates to the following dependent variables: academic success ($F(1, 14,638) = 3.977, p = .046, \eta^2 < .001$), prior learning experience ($F(1, 18,045) = 27.202, p < .001, \eta^2 = .002$), financial stress ($F(1, 16,433) = 5.397, p = .020, \eta^2 < .001$), and Wellness factor ($F(1, 17,897) = 4.936, p = .026, \eta^2 < .001$). A significant difference is also found between first-generation students (nonveterans) and first-generation student veterans as it relates to prior learning credits. There is no difference between non-traditional students (nonveterans) and non-traditional student veterans for all pre-entry attributes and skills for One-Way ANOVA testing. F-ratio is not significant. We failed to reject the null hypotheses for all cases related to non-traditional students.

When Factorial ANOVA was used to analyze mean differences among the comparison groups, the following significant findings were determined:

- There is a difference in academic success between public/private institution type for traditional student veterans.

- There is interaction between student veteran status and public/private institution type for academic success (for traditional students only), for prior learning experience (for traditional and first-generation students), and for financial stress (for first-generation students only).
- There is a difference in academic success between commuter/resident student status for traditional and first-generation students.
- There is interaction between student veteran status and commuter/resident student statuses for academic success (for traditional and first-generation students), for prior learning experience (for first-generation students only), and for academic integration (for non-traditional students only).
- There is a difference in academic success between traditional student veterans (for financial stress, prior learning experience, wellness, academic skills), first-generation students (for prior learning experience), or non-traditional students (for wellness, creative expressions skills, and academic integration factor).
- There is no interaction between financial stress and academic integration; prior learning experience and academic integration; or wellness and academic integration.
- There is no interaction between creative expression skills and academic integration.
- There is a difference in academic success within academic skills.

Student veterans share the pre-entry attribute of financial stress with first-generation nonveterans (Engle et al., 2006). The need to work more off campus or spend

more time with family takes away opportunities for academic integration (Kim & Cole, 2013). There may be opportunities to collaborate with admissions counselors to identify first-generation students with lower academic ability or skills as well as those who need more career counseling than traditional students. Last, there was a mean difference between prior learning experience and academic success, supporting the claim that students who have prior learning credits have higher completion rates (C.A.E.L., 2010).

Research Question 3

What independent variables (pre-entry attributes and skills gained or lost) are most influential in predicting student veteran academic success?

There were two main goals for the third research question. First, determine the pre-entry attribute or skill that is a predictor variable for academic success. Second, determine if there is a variable that has interaction with Academic Integration, identified in Research Question 1. In this study, the pre-entry attribute or skill variable was identified as Academic Skills and the null hypothesis was rejected. However, we found that the Academic Skills factor and the Academic Integration factor do not have interaction between them as it related to academic success. We failed to reject the null hypothesis and determined there was no interaction between Academic Skills and Academic Integration.

Factor analysis was applied to reduce 16 pre-entry attributes and skills to 3 factors: Wellness, Creative Expression Skills, and Academic Skills. The “Student Veteran Pre-entry Attributes and Skills” regression model was also a significant finding, where $R = .336$, $R^2 = .113$, $F = 2.592$, $p < .05$ level (.030), see Table 29. The null hypothesis was rejected. There was a significant linear relationship between Academic

Skills factor and academic success for student veterans, $p < .05$ level (.042), Beta = .216.

The Academic Skills factor included academic ability, computer skills, and mathematical skills.

Conclusions

For this study, the review of literature narrowed the scope to help determine which pre-entry attributes and skills and what forms of student involvement most influence academic success. In identifying Academic Integration and Academic Skills as predictor variables, the findings point to two conclusions that support the Schlossberg's four "S" System for Transition Theory: Situation, Self, Support, and Strategy variables which guided this study. Skills lost need to be improved and supported, while the best forms of involvement identified needs to be communicated and demonstrated to faculty and campus professionals.

Major Finding 1 and Conclusions

Let us revisit what Astin suggests, "...the secret to working effectively with such students is to determine what forms of involvement work best and to encourage the student along these lines" (DiRamio & Jarvis, 2011, p.33). The Strategy variable of Academic Integration involvement factor, is environmental. All student veteran groups report having a harder time adjusting to academic demands than nonveteran peers. A way student veterans can cope with balancing work, family, and school is to get involved through faculty-facilitated academic integration. Braxton et al. (1997) find that a lack of academic integration requires finding ways to allocate resources to encourage students and faculty to interact, including teaching techniques that complement the learning needs described as classroom discussions, student presentations, and utilizing group projects.

Faculty are able to shape student performance, as Kuh, Laird, and Umbach (2004) find that students engage in effective educational practices at a greater degree when faculty emphasize and value them. Further, campuses need to increase professional development on use of online, electronic, and social media resources as a comprehensive and convenient means to integrate students into the campus culture. This finding contrasts Astin's (1993) emphasis on participation in activities, student organizations, volunteering, or on campus employment.

Vacchi (2014) suggests, "What goes on in the classroom is critically important to the success of adult learners such as student veterans" (p. 127). Institutional commitment for an improved educational environment is necessary to increase academic success for student veterans. This means that active/collaborative learning concepts should be tested and, if proved to be effective, may be used to increase the academic success of other identified at-risk student populations.

Major Finding 2 and Conclusions

Through identifying the Academic Skills predictor variable, the student veteran is able to become aware of personal strengths and liabilities (Self variable) in the areas of academic ability, computer skills, and mathematical skills. The Support variable can take the form of study skills advising, computer skills support, or mathematical skills support offered to the student veteran. While most colleges require placement testing and advising for mathematical and writing courses, study skills advising is often not a service linked to a course and is key to assisting new student veterans as they regain skills lost. In general, new student veterans utilize support for study skills about 11% more than nonveteran peers, occurring "Occasionally" to "Not at all." First-generation student

veterans present very similarly, while non-traditional student veterans utilize study skills advising 5% less than their non-traditional nonveteran peers. Additionally, improving study skills affects the way student veterans approach multiple courses. A barrier to addressing study skills may be the greater average time spent by non-traditional students on off-campus jobs and household/childcare duties. Traditional nonveteran students are also spending twice as much time on social media as non-traditional student veterans (3 hours versus 1.5 hours). Overall, student veterans report managing their time more effectively than nonveteran peers. Institutions may wish to consider a “boot camp” or bridge program orientation for the student veteran population, dedicated to addressing Academic Skills lost. Student veterans who improve in study skills, computer skills, and mathematical skills will be positioned (Strategy variable) for academic success. Kim & Cole (2013) report student veterans need to be integrated through connection to student support resources such as study skills advising, writing center, career services, academic advising, and the disability resource center. Student veterans who are able to utilize the right strategies are more likely to persist to graduation.

Implications

This study is valuable to student affairs practitioners and theorists interested in the academic success of first-year traditional and first-generation students, especially student veterans who benefit from the Post-9/11 G.I. Bill. This study adds to the literature of empirical studies that support a student veteran persistence theory as it relates to academic success and student involvement. This study offers a multi-institutional comparative and longitudinal study of student veterans offering campus professionals findings that help them to assess the services they provide to student veterans for

orientation and academic support. There may also be innovative ways to nurture faculty and student affairs collaboration when supporting outside of class discussions and better training to access campus resources electronically. As a result, entering student veterans will find a more welcoming campus, understanding of their background and unique needs specifically addressed.

Additionally, this study creates urgency for faculty and campus professionals to be more aware of underprepared (academic ability, computer skills, or math skills) student veterans and see some of them as being an at-risk student for attrition if their need for involvement is not met through Academic Integration variables. Student veterans understand academic expectations and are utilizing academic advising services; they need to improve upon their study skills effectiveness and address their financial needs through both the veteran office and financial aid office. Financial stress may be relieved through awarding more financial aid and/or prior learning credit to reduce expenses. Additionally, the findings of this study can be incorporated into decision making processes for institutions to better reallocate resources and address inconsistencies of current policies.

Community colleges benefit from this study by promoting Academic Integration as the best forms of involvement for academic success. More resources toward campus life or student activities are not necessarily required. Kuh et al. (2004) state that faculty interaction with students decline outside the classroom due to part-time faculty spending less time on campus and not having designated meeting space with students. The findings in this study challenge community colleges to increase faculty development and faculty accessibility in order to implement pedagogy that facilitates academic integration activities in the classroom and between classmates.

Campus professionals have an ethical responsibility to help student veterans navigate through the higher education system as quickly and least costly as possible. Financial stress is an attribute that affects student veterans across all backgrounds. Knowing which skills are needed to maximize success and which modes of involvement to promote will also maximize use of time for student veterans new to college campuses.

Recommendations for Future Research

This study's findings raise a number of questions and directions that might be explored in future studies. The vast number of pre-entry attributes may be explored further in-depth. Future research may also consider the institutional setting, as public institutions are more able to address financial stress through more affordable tuition. There was no difference found in financial stress between public or private institution types. What then is the effectiveness of the yellow ribbon programs that supplement what the G.I. Bill does not cover? How are the demands of higher costs for student veterans being met at private institutions? Determine to what extent student veterans maximize the utilization of nonveteran-related administered financial aid awards.

Another future research idea that may be studied is the difference in creative expression skills of student veterans between public and private institution types. Are the writing and public speaking skills of new student veterans adequate for them to have self-advocacy or to take on leadership opportunities? Contrast the differences in creative expression skills between non-traditional student veterans and non-traditional nonveterans due to leadership and prior knowledge (Sternberg et al., 2009). The number of non-traditional student veterans in the target population (0.04%) limited the generalizability of findings toward this population.

Another future study could explore differences in prior learning experience between public or private institution types. First, specifically how is prior learning defined? Are there less problems at larger institutions who regularly enroll student veterans and review transcripts and prior learning applications? Are there other site-based assessments that allow for accelerated degree completion for non-traditional students? Is there a best practice with prior learning assessment processes specific to student veterans that has not been reported? What about part-time status student veterans?

Finally, the pre-entry attribute of emotional and physical health, called wellness in this study, can be further explored. In this study, no difference is reported in wellness pre-entry attribute in either public or private institution types. Are the current services available adequate for first year transition? Are student veterans deciding to address this issue off campus or is the issue being avoided? The variable was more significant for non-traditional student veterans in this study. Further exploration of the differences in wellness between non-traditional student veterans and non-traditional nonveterans will help with psychological services available on campuses.

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APPENDIX A

C.I.R.P. FRESHMAN SURVEY INSTRUMENT

23. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

	None	Less than \$1,000	\$1,000 to 2,999	\$3,000 to 4,999	\$5,000 to 9,999	\$10,000+
Family resources (parents, relatives, spouse, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My own resources (savings from work, work-study, other income)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aid which need <u>not</u> be repaid (grants, scholarships, military funding, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aid which <u>must</u> be repaid (loans, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other than above	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

<input type="radio"/> Less than \$10,000	<input type="radio"/> \$50,000-59,999
<input type="radio"/> \$10,000-14,999	<input type="radio"/> \$60,000-74,999
<input type="radio"/> \$15,000-19,999	<input type="radio"/> \$75,000-99,999
<input type="radio"/> \$20,000-24,999	<input type="radio"/> \$100,000-149,999
<input type="radio"/> \$25,000-29,999	<input type="radio"/> \$150,000-199,999
<input type="radio"/> \$30,000-39,999	<input type="radio"/> \$200,000-249,999
<input type="radio"/> \$40,000-49,999	<input type="radio"/> \$250,000 or more

25. Do you have any concern about your ability to finance your college education? (Mark one)

None (I am confident that I will have sufficient funds)

Some (but I probably will have enough funds)

Major (not sure I will have enough funds to complete college)

26. Current religious preference: (Mark one in each column)

	Yours	Father's	Mother's
Baptist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buddhist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Church of Christ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eastern Orthodox	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Episcopalian	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hindu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jewish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LDS (Mormon)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lutheran	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Methodist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Muslim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presbyterian	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quaker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roman Catholic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seventh Day Adventist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
United Church of Christ/Congregational	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Christian	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Religion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Do you consider yourself: (Mark yes or no for each item)

	Yes	No
Born-Again Christian	<input type="radio"/>	<input type="radio"/>
Evangelical	<input type="radio"/>	<input type="radio"/>

28. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark F. If you engaged in an activity one or more times, but not frequently, mark O (Occasionally). Mark N (Not at all) if you have not performed the activity during the past year. (Mark one for each item)

	Frequently	Occasionally	Not at All
Attended a religious service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Was bored in class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Demonstrated for/against a cause	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutored another student	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studied with other students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Was a guest in a teacher's home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoked cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drank beer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drank wine or liquor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt overwhelmed by all I had to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt depressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performed volunteer work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asked a teacher for advice after class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voted in a student election	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socialized with someone of another racial/ethnic group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Came late to class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used the Internet for research or homework	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performed community service as a part of a class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed religion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed politics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked on a local, state, or national political campaign	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skipped school/class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Publicly communicated my opinion about a cause (e.g. blog, email, petition)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped raise money for a cause or campaign	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fell asleep in class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failed to complete homework on time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one in each row)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Academic ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artistic ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperativeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creativity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drive to achieve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emotional health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mathematical ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Popularity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public speaking ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-confidence (intellectual)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-confidence (social)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spirituality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one for each item)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Ability to see the world from someone else's perspective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tolerance of others with different beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Openness to having my own views challenged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to discuss and negotiate controversial issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to work cooperatively with diverse people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. What is the highest level of formal education obtained by your parents? (Mark one in each column)

	Father	Mother
Grammar school or less	<input type="radio"/>	<input type="radio"/>
Some high school	<input type="radio"/>	<input type="radio"/>
High school graduate	<input type="radio"/>	<input type="radio"/>
Postsecondary school other than college	<input type="radio"/>	<input type="radio"/>
Some college	<input type="radio"/>	<input type="radio"/>
College degree	<input type="radio"/>	<input type="radio"/>
Some graduate school	<input type="radio"/>	<input type="radio"/>
Graduate degree	<input type="radio"/>	<input type="radio"/>

32. How often in the past year did you? (Mark one for each item)

	Frequently	Occasionally	Not at All
Ask questions in class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support your opinions with a logical argument	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek solutions to problems and explain them to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Revise your papers to improve your writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluate the quality or reliability of information you received	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take a risk because you feel you have more to gain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek alternative solutions to a problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Look up scientific research articles and resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore topics on your own, even though it is not required for a class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accept mistakes as part of the learning process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek feedback on your academic work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take notes during class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work with other students on group projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrate skills and knowledge from different sources and experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. Mark only three responses, one in each column.

Your mother's occupation
 Your father's occupation
 Your probable career occupation

Accountant or actuary.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actor or entertainer.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Architect or urban planner.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artist.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business (clerical).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business executive (management, administrator).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business owner or proprietor.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business salesperson or buyer.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clergy (minister, priest).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clergy (other religious).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical psychologist.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
College administrator/staff.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
College teacher.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer programmer or analyst.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservationist or forester.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dentist (including orthodontist).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dietitian or nutritionist.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engineer.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farmer or rancher.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foreign Service worker (including diplomat).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homemaker (full-time).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interior decorator (including designer).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lab technician or hygienist.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Law enforcement officer.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lawyer (attorney) or judge.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Military service (career).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Musician (performer, composer).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nurse.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Optometrist.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pharmacist.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physician.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policymaker/Government.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School counselor.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School principal or superintendent.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientific researcher.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social, welfare, or recreation worker.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Therapist (physical, occupational, speech).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher or administrator (elementary).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teacher or administrator (secondary).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veterinarian.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writer or journalist.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skilled trades.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laborer (unskilled).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Semi-skilled worker.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unemployed.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undecided.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. Are you: (Mark that apply)

White/Caucasian
 African American/Black
 American Indian/Alaska Native
 Asian American/Asian
 Native Hawaiian/Pacific Islander
 Mexican American/Chicano
 Puerto Rican
 Other Latino
 Other

35. Mark one in each row:

1 Disagree Strongly
 2 Disagree Somewhat
 3 Agree Somewhat
 4 Agree Strongly

Wealthy people should pay a larger share of taxes than they do now.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Affirmative action in college admissions should be abolished.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The federal government should do more to control the sale of handguns.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The federal government is not doing enough to control environmental pollution.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A national health care plan is needed to cover everybody's medical costs.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The federal government should raise taxes to reduce the deficit.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressing global warming should be a federal priority.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The chief benefit of a college education is that it increases one's earning power.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gays and lesbians should have the legal right to adopt a child.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. How would you characterize your political views? (Mark)

Far left
 Liberal
 Middle-of-the-road
 Conservative
 Far right

37. In deciding to go to college, how important to you was each of the following reasons? (Mark answer for each possible reason)

To be able to get a better job.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To gain a general education and appreciation of ideas.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To make me a more cultured person.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be able to make more money.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To learn more about things that interest me.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To get training for a specific career.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To prepare myself for graduate or professional school.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. During your last year in high school, how much time did you spend during a typical week doing the following activities?

Hours per week:	None	Less than 1 hour	1-2	3-5	6-10	11-15	16-20	Over 20
Studying/homework.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socializing with friends.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talking with teachers outside of class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercise or sports.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partying.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working (for pay).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteer work.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student clubs/groups.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watching TV.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Household/childcare duties.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading for pleasure.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Playing video/computer games.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online social networks (MySpace, Facebook, etc.).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark answer for each possible reason)

My parents wanted me to come here.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My relatives wanted me to come here.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teacher advised me.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This college has a very good academic reputation.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This college has a good reputation for its social activities.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was offered financial assistance.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The cost of attending this college.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High school counselor advised me.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private college counselor advised me.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wanted to live near home.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not offered aid by first choice.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Could not afford first choice.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This college's graduates gain admission to top graduate/professional schools.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This college's graduates get good jobs.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was attracted by the religious affiliation/orientation of the college.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wanted to go to a school about the size of this college.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rankings in national magazines.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information from a website.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was admitted through an Early Action or Early Decision program.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The athletic department recruited me.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A visit to the campus.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to take online courses.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. The current economic situation significantly affected my college choice: (Mark)

Agree Strongly
 Agree Somewhat
 Disagree Somewhat
 Disagree Strongly

41. Below is a list of different undergraduate major fields grouped into general categories. Mark only one oval to indicate your probable field of study.

- | | | | |
|---|----|---|----|
| ARTS AND HUMANITIES | | PHYSICAL SCIENCE | |
| Art, fine and applied..... | 1 | Astronomy..... | 41 |
| English (language and literature)..... | 2 | Atmospheric Science (incl. Meteorology)..... | 44 |
| History..... | 3 | Chemistry..... | 45 |
| Journalism..... | 4 | Earth Science..... | 46 |
| Language and Literature (except English)..... | 5 | Marine Science (incl. Oceanography)..... | 47 |
| Music..... | 6 | Mathematics..... | 48 |
| Philosophy..... | 7 | Physics..... | 49 |
| Speech..... | 8 | Other Physical Science..... | 50 |
| Theater or Drama..... | 9 | PROFESSIONAL | |
| Theology or Religion..... | 10 | Architecture or Urban Planning..... | 51 |
| Other Arts and Humanities..... | 11 | Family & Consumer Sciences..... | 52 |
| BIOLOGICAL SCIENCE | | Health Technology (medical, dental, laboratory)..... | 53 |
| Biology (general)..... | 12 | Library or Archival Science..... | 54 |
| Biochemistry or Biophysics..... | 13 | Medicine, Dentistry, Veterinary Medicine..... | 55 |
| Botany..... | 14 | Nursing..... | 56 |
| Environmental Science..... | 15 | Pharmacy..... | 57 |
| Marine (Life) Science..... | 16 | Therapy (occupational, physical, speech)..... | 58 |
| Microbiology or Bacteriology..... | 17 | Other Professional..... | 59 |
| Zoology..... | 18 | SOCIAL SCIENCE | |
| Other Biological Science..... | 19 | Anthropology..... | 60 |
| BUSINESS | | Economics..... | 61 |
| Accounting..... | 20 | Ethnic Studies..... | 62 |
| Business Admin. (general)..... | 21 | Geography..... | 63 |
| Finance..... | 22 | Political Science (gov't, international relations)..... | 64 |
| International Business..... | 23 | Psychology..... | 65 |
| Marketing..... | 24 | Public Policy..... | 66 |
| Management..... | 25 | Social Work..... | 67 |
| Secretarial Studies..... | 26 | Sociology..... | 68 |
| Other Business..... | 27 | Women's Studies..... | 69 |
| EDUCATION | | Other Social Sciences..... | 70 |
| Business Education..... | 28 | TECHNICAL | |
| Elementary Education..... | 29 | Building Trades..... | 71 |
| Music or Art Education..... | 30 | Data Processing or Computer Programming..... | 72 |
| Physical Education or Recreation..... | 31 | Drafting or Design..... | 73 |
| Secondary Education..... | 32 | Electronics..... | 74 |
| Special Education..... | 33 | Mechanics..... | 75 |
| Other Education..... | 34 | Other Technical..... | 76 |
| ENGINEERING | | OTHER FIELDS | |
| Aeronautical or Astronautical Eng..... | 35 | Agriculture..... | 77 |
| Civil Engineering..... | 36 | Communications..... | 78 |
| Chemical Engineering..... | 37 | Computer Science..... | 79 |
| Computer Engineering..... | 38 | Forestry..... | 80 |
| Electrical or Electronic Engineering..... | 39 | Kinesiology..... | 81 |
| Industrial Engineering..... | 40 | Law Enforcement..... | 82 |
| Mechanical Engineering..... | 41 | Military Science..... | 83 |
| Other Engineering..... | 42 | Other Field..... | 84 |
| | | Undecided..... | 85 |

42. Please indicate the importance to you personally of each of the following: (Mark one for each item)

- | | | | |
|---|--|------------------------|--|
| | | (N) Not Important | |
| | | (S) Somewhat Important | |
| | | (V) Very Important | |
| | | (E) Essential | |
| Becoming accomplished in one of the performing arts (acting, dancing, etc.)..... | | (E) (V) (S) (N) | |
| Becoming an authority in my field..... | | (E) (V) (S) (N) | |
| Obtaining recognition from my colleagues for contributions to my special field..... | | (E) (V) (S) (N) | |
| Influencing the political structure..... | | (E) (V) (S) (N) | |
| Influencing social values..... | | (E) (V) (S) (N) | |
| Raising a family..... | | (E) (V) (S) (N) | |
| Being very well off financially..... | | (E) (V) (S) (N) | |
| Helping others who are in difficulty..... | | (E) (V) (S) (N) | |
| Making a theoretical contribution to science..... | | (E) (V) (S) (N) | |
| Writing original works (poems, novels, etc.)..... | | (E) (V) (S) (N) | |
| Creating artistic works (painting, sculpture, etc.)..... | | (E) (V) (S) (N) | |
| Becoming successful in a business of my own..... | | (E) (V) (S) (N) | |
| Becoming involved in programs to clean up the environment..... | | (E) (V) (S) (N) | |
| Developing a meaningful philosophy of life..... | | (E) (V) (S) (N) | |
| Participating in a community action program..... | | (E) (V) (S) (N) | |
| Helping to promote racial understanding..... | | (E) (V) (S) (N) | |
| Keeping up to date with political affairs..... | | (E) (V) (S) (N) | |
| Becoming a community leader..... | | (E) (V) (S) (N) | |
| Improving my understanding of other countries and cultures..... | | (E) (V) (S) (N) | |
| Adopting "green" practices to protect the environment..... | | (E) (V) (S) (N) | |

43. What is your best guess as to the chances that you will: (Mark one for each item)

- | | | | |
|---|--|------------------------|--|
| | | (N) No Chance | |
| | | (L) Very Little Chance | |
| | | (S) Some Chance | |
| | | (V) Very Good Chance | |
| Change major field?..... | | (V) (S) (L) (N) | |
| Change career choice?..... | | (V) (S) (L) (N) | |
| Participate in student government?..... | | (V) (S) (L) (N) | |
| Get a job to help pay for college expenses?..... | | (V) (S) (L) (N) | |
| Work full-time while attending college?..... | | (V) (S) (L) (N) | |
| Join a social fraternity or sorority?..... | | (V) (S) (L) (N) | |
| Play club, intramural, or recreational sports?..... | | (V) (S) (L) (N) | |
| Play intercollegiate athletics (e.g., NCAA or NAIA-sponsored)?..... | | (V) (S) (L) (N) | |
| Make at least a "B" average?..... | | (V) (S) (L) (N) | |
| Need extra time to complete your degree requirements?..... | | (V) (S) (L) (N) | |
| Participate in student protests or demonstrations?..... | | (V) (S) (L) (N) | |
| Transfer to another college before graduating?..... | | (V) (S) (L) (N) | |
| Be satisfied with your college?..... | | (V) (S) (L) (N) | |
| Participate in volunteer or community service work?..... | | (V) (S) (L) (N) | |
| Seek personal counseling?..... | | (V) (S) (L) (N) | |
| Communicate regularly with your professors?..... | | (V) (S) (L) (N) | |
| Socialize with someone of another racial/ethnic group?..... | | (V) (S) (L) (N) | |
| Participate in student clubs/groups?..... | | (V) (S) (L) (N) | |
| Participate in a study abroad program?..... | | (V) (S) (L) (N) | |
| Have a roommate of a different race/ethnicity?..... | | (V) (S) (L) (N) | |
| Discuss course content with students outside of class?..... | | (V) (S) (L) (N) | |
| Work on a professor's research project?..... | | (V) (S) (L) (N) | |
| Get tutoring help in specific courses?..... | | (V) (S) (L) (N) | |
| Take courses from more than one college simultaneously?..... | | (V) (S) (L) (N) | |

The remaining ovals are provided for questions specifically designed by your college rather than the Higher Education Research Institute. If your college has chosen to use the ovals, please observe carefully the supplemental directions given to you.

- | | | | | |
|---------------|---------------|---------------|---------------|---------------|
| 44. A B C D E | 48. A B C D E | 52. A B C D E | 56. A B C D E | 60. A B C D E |
| 45. A B C D E | 49. A B C D E | 53. A B C D E | 57. A B C D E | 61. A B C D E |
| 46. A B C D E | 50. A B C D E | 54. A B C D E | 58. A B C D E | 62. A B C D E |
| 47. A B C D E | 51. A B C D E | 55. A B C D E | 59. A B C D E | 63. A B C D E |

THANK YOU!

APPENDIX B
Y.F.C.Y. SURVEY INSTRUMENT

7. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one for each item)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Academic ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artistic ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitiveness.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer skills.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperativeness.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creativity.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drive to achieve.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emotional health.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mathematical ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical health.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public speaking ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk-taking.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-confidence (intellectual).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-confidence (social).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-understanding.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spirituality.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding of others.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing ability.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Since entering this college, how has it been to: (Mark one for each item)

	Very Easy	Somewhat Easy	Somewhat Difficult	Very Difficult
Understand what your professors expect of you academically.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop effective study skills.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adjust to the academic demands of college.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage your time effectively.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop close friendships with other students.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. How would you characterize your political views? (Mark one)

- Far left
- Liberal
- Middle-of-the-road
- Conservative
- Far right

10. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one for each item)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Ability to see the world from someone else's perspective.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tolerance of others with different beliefs.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Openness to having my own views challenged.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to discuss and negotiate controversial issues.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to work cooperatively with diverse people.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Since entering this college, how often have you: (Mark one for each item)

	Frequently	Occasionally	Not at all
Attended a religious service.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been bored in class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Demonstrated for a cause (e.g., boycott, rally, protest).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutored another student.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studied with other students.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been a guest in a professor's home.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoked cigarettes.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drank beer.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drank wine or liquor.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt overwhelmed by all you had to do.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt depressed.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performed volunteer work.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asked a professor for advice after class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voted in a student election.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked on a local, state, or national political campaign.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socialized with someone of another racial/ethnic group.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Come late to class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used the Internet for research or homework.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performed community service as part of class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed religion.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed politics.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintained a healthy diet.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had adequate sleep.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped raise money for a cause or campaign.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Publicly communicated your opinion about a cause (e.g., blog, email, petition).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Think back over the past two weeks. How many times in the past two weeks, if any, have you had five or more alcoholic drinks in a row? (A drink can be a 12-ounce beer or wine cooler, a 4-ounce glass of wine, or a shot of liquor either straight or in a mixed drink.)

- None
- Once
- Twice
- 3-5 times
- 6-9 times
- 10 or more times

13. Please indicate the extent to which you agree or disagree with the following statements: (Mark one for each item)

	Strongly Agree	Agree	Disagree	Strongly Disagree
I have felt discriminated against at this institution because of my race/ethnicity, gender, sexual orientation, or religious affiliation.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as part of the campus community.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty showed concern about my progress.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a lot of racial tension on this campus.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been able to find a balance between academics and extracurricular activities.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The admission/recruitment materials portrayed this campus accurately.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty empower me to learn here.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If asked, I would recommend this college to others.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At least one staff member has taken an interest in my development.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel valued at this institution.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty believe in my potential to succeed academically.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My college experiences have exposed me to diverse opinions, cultures, and values.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff encouraged me to get involved in campus activities.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In class, I have heard faculty express stereotypes based on race/ethnicity, gender, sexual orientation, or religious affiliation.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff recognize my achievements.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People at this college are supportive of me.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty encouraged me to meet with them outside of class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in seeking information about current social and political issues.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a sense of belonging to this campus.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At least one faculty member has taken an interest in my development.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I am a member of this college.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have effectively led a group to a common purpose.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Please rate your satisfaction with this institution on each of the aspects of college life listed below. (Mark one for each item)

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Can't Rate/ No Experience
Amount of contact with faculty.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Racial/ethnic diversity of faculty.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Racial/ethnic diversity of student body.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Class size.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interaction with other students.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relevance of coursework to everyday life.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relevance of coursework to future career plans.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall quality of instruction.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respect for the expression of diverse beliefs.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of campus social activities.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your social life.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall sense of community among students.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall college experience.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. What is your overall grade average (as of your most recently completed academic term)? (Mark one)

A or A+ B C
 A- B- D
 B+ C+
 I did not receive grades in my courses

16. How often in the past year did you: (Mark one for each item)

	Frequently	Occasionally	Not at all
Ask questions in class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support your opinions with a logical argument.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek solutions to problems and explain them to others..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Revise your papers to improve your writing.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluate the quality or reliability of information you received.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take a risk because you felt you had more to gain.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek alternative solutions to a problem.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Look up scientific research articles and resources.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explore topics on your own, even though it was not required for a class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accept mistakes as part of the learning process.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek feedback on your academic work.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrate skills and knowledge from different sources and experiences.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Where did you primarily live while attending college this past year? (Mark one)

On Campus

Special interest housing

First-year student housing
 Cultural or minority student housing
 Single-sex housing
 Special academic program housing
 Other special interest housing

Regular college housing

Residence hall
 Apartment
 Fraternity or sorority housing
 Other residential housing

Off Campus

At home with family
 Fraternity or sorority
 Rented apartment or house
 Other

18. Indicate the importance to you personally of each of the following: (Mark one for each item)

	Essential	Very Important	Somewhat Important	Not Important
Becoming accomplished in one of the performing arts (acting, dancing, etc.).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming an authority in my field.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obtaining recognition from my colleagues for contributions to my special field.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Influencing the political structure.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Influencing social values.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Raising a family.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being very well off financially.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helping others who are in difficulty.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making a theoretical contribution to science.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing original works (poems, novels, etc.).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating artistic works (painting, sculpture, etc.).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming successful in a business of my own.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming involved in programs to clean up the environment.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing a meaningful philosophy of life.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participating in a community action program.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helping to promote racial understanding.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeping up to date with political affairs.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming a community leader.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving my understanding of other countries and cultures.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting "green" practices to protect the environment.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. To what extent have you experienced the following with students from a racial/ethnic group other than your own? (Mark one for each item)

	Very Often	Often	Sometimes	Seldom	Never
Dined or shared a meal.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had meaningful and honest discussions about race/ethnic relations outside of class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had guarded, cautious interactions.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shared personal feelings and problems.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had tense, somewhat hostile interactions.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had intellectual discussions outside of class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt insulted or threatened because of your race/ethnicity.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studied or prepared for class.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socialized or partied.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Since entering this college, how much time have you spent during a typical week doing the following activities? (Mark one for each item)

	None	Less than 1 hour	1 - 2	3 - 5	6 - 10	11 - 15	16 - 20	Over 20
Attending classes/labs.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studying/homework.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socializing with friends.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercising or sports.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partying.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working (for pay) <u>on</u> campus.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working (for pay) <u>off</u> campus.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student clubs and groups.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watching TV.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Household/childcare duties.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commuting.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online social networks (MySpace, Facebook, etc.).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Since entering this college have you:
(Mark Yes or No)

	Yes	No
Decided to pursue a different major.....	<input type="radio"/> Y	<input type="radio"/> N
Remained undecided about a major.....	<input type="radio"/> Y	<input type="radio"/> N
Changed your career choice.....	<input type="radio"/> Y	<input type="radio"/> N
Participated in student government.....	<input type="radio"/> Y	<input type="radio"/> N
Held a full-time job (approx. 40 hours) while taking classes.....	<input type="radio"/> Y	<input type="radio"/> N
Joined a social fraternity or sorority.....	<input type="radio"/> Y	<input type="radio"/> N
Played club, intramural, or recreational sports.....	<input type="radio"/> Y	<input type="radio"/> N
Played intercollegiate athletics (e.g., NCAA or NAIA-sponsored).....	<input type="radio"/> Y	<input type="radio"/> N
Participated in student groups/clubs.....	<input type="radio"/> Y	<input type="radio"/> N
Sought personal counseling.....	<input type="radio"/> Y	<input type="radio"/> N
Strengthened your religious beliefs/convictions.....	<input type="radio"/> Y	<input type="radio"/> N
Failed one or more courses.....	<input type="radio"/> Y	<input type="radio"/> N
Participated in leadership training.....	<input type="radio"/> Y	<input type="radio"/> N
Taken an honors course.....	<input type="radio"/> Y	<input type="radio"/> N
Taken a remedial or developmental course.....	<input type="radio"/> Y	<input type="radio"/> N
Enrolled in a formal program where a group of students takes two or more courses together (e.g., FIG, learning community, linked courses).....	<input type="radio"/> Y	<input type="radio"/> N
Participated in an academic support program.....	<input type="radio"/> Y	<input type="radio"/> N
Had a roommate of a different race/ethnicity.....	<input type="radio"/> Y	<input type="radio"/> N
Accumulated excessive credit card debt.....	<input type="radio"/> Y	<input type="radio"/> N
Taken a course or first-year seminar designed to:		
Connect faculty and students in focused academic inquiry.....	<input type="radio"/> Y	<input type="radio"/> N
Help students adjust to college-level academics.....	<input type="radio"/> Y	<input type="radio"/> N
Help students adjust to college life.....	<input type="radio"/> Y	<input type="radio"/> N
Been a leader in an organization.....	<input type="radio"/> Y	<input type="radio"/> N
Voted in the 2010 fall election.....	<input type="radio"/> Y	<input type="radio"/> N
Communicated regularly with your professors.....	<input type="radio"/> Y	<input type="radio"/> N

22. Since entering this college, indicate how often you: (Mark one for each item)

	Frequently	Occasionally	Not at all
Turned in course assignment(s) late.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Contributed to class discussions.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Discussed course content with students outside of class.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Skipped class.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Received tutoring.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Worked on a professor's research project.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Turned in course assignments that did <u>not</u> reflect your best work.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Had difficulty getting along with your roommate(s)/housemate(s).....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Received from your professor advice or guidance about your educational program.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Witnessed academic dishonesty/cheating.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Went home for the weekend.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Received advice/counseling from another student.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Fell asleep in class.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Had difficulty getting the courses you need.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Instant messaged/texted during class.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Worked with classmates on group projects:			
During class.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Outside of class.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Accessed your campus library resources electronically.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Made a presentation in class.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Applied concepts from courses to everyday life.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Used the institution's website to learn about campus resources.....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N
Used the institution's course catalog (paper or online).....	<input type="radio"/> F	<input type="radio"/> O	<input type="radio"/> N

23. Are you currently registered to vote?
 Ineligible Yes No

24. If you could make your college choice over, would you still choose to enroll at your current (or most recent) college?
(Mark one)
 Definitely yes Definitely not Not sure yet
 Probably yes Probably not

25. What do you think you will be doing in Fall 2011? (Mark one)
 Attending your current (or most recent) institution
 Attending another institution
 Don't know/have not decided yet
 Not attending any institution

26. Are you currently a full-time or part-time student?
 Full-time
 Part-time
 Not enrolled

27. Did you transfer into this institution from another college/university?
 Yes
 No

28. What year did you first enter: (Mark one in each column)

	Your 1st College	
	This College	
2010 or 2011.....	<input type="radio"/>	<input type="radio"/>
2009.....	<input type="radio"/>	<input type="radio"/>
2008.....	<input type="radio"/>	<input type="radio"/>
2007.....	<input type="radio"/>	<input type="radio"/>
2006 or earlier.....	<input type="radio"/>	<input type="radio"/>

29. Your sex: Male Female

30. Is English your native language? Yes No

31. Are you: (Mark all that apply)

<input type="radio"/> White/Caucasian	<input type="radio"/> Mexican American/Chicano
<input type="radio"/> African American/Black	<input type="radio"/> Puerto Rican
<input type="radio"/> American Indian/Alaska Native	<input type="radio"/> Other Latino
<input type="radio"/> Asian American/Asian	<input type="radio"/> Other
<input type="radio"/> Native Hawaiian/Pacific Islander	

The remaining ovals are provided for additional questions that may be supplied by your institution.

32. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	42. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
33. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	43. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
34. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	44. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
35. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	45. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
36. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	46. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
37. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	47. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
38. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	48. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
39. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	49. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
40. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	50. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
41. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	51. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E

THANK YOU!

APPENDIX C

STUDENT INVOLVEMENT FACTOR MATRIX

APPENDIX C Rotated Component Matrix: YFCY Survey Q2, Q6, Q11, & Q22^a

	Component						
	1	2	3	4	5	6	7
Act: Been bored in class			.467				
Act: Tutored another student				.388			
Act: Studied with other students						.497	
Act: Been a guest in a professor's home				.367			
Act: Smoked cigarettes					.540		
Act: Drank beer					.854		
Act: Drank wine or liquor					.842		
Act: Felt overwhelmed by all you had to do			.412				
Act: Felt depressed			.475				
Act: Performed volunteer work				.645			
Act: Asked a professor for advice after class	.426						
Act: Voted in a student election				.480			
Act: Worked on a local, state, or national political campaign				.504			
Act: Socialized with someone of another racial/ethnic group						.476	
Act: Come late to class			.482				
Act: Used the Internet for research or homework						.433	
Act: Performed community service as part of class				.548			
Act: Maintained a healthy diet				-.37			
Act: Had adequate sleep				-.44			
Act: Helped raise money for a cause or campaign				.652			
Act: Publicly communicated your opinion about a cause (e.g., blog, email, petition)				.532			
Act in Class: Turned in course assignment(s) late			.428				
Act in Class: Contributed to class discussions		.377					
Act in Class: Discussed course content with students outside of class		.389				.461	
Act in Class: Skipped class			.523				
Act in Class: Received tutoring	.456						
Act in Class: Worked on a professor's research project							
Act in Class: Turned in course assignments that did not reflect your best work			.493				
Act in Class: Had difficulty getting along with your roommate(s)/housemate(s)							
Act in Class: Received from your professor advice or guidance about your educational program	.369	.378					
Act in Class: Witnessed academic dishonesty/cheating			.368				
Act in Class: Went home for the weekend							
Act in Class: Received advice/counseling from another student							
Act in Class: Fell asleep in class			.476				
Act in Class: Had difficulty getting into the courses you need							
Act in Class: Instant messaged/texted during class			.431				
Act in Class: Worked with classmates on group projects during class		.559					
Act in Class: Worked with classmates on group projects outside of class		.539					
Act in Class: Accessed your campus library resources electronically		.589					
Act in Class: Made a presentation in class		.626					
Act in Class: Applied concepts from courses to everyday life		.655					
Act in Class: Used the institution's website to learn about campus resources		.655					
Act in Class: Use the institution's course catalog (paper or online)		.595					
Services: Study skills advising	.593						
Services: Financial aid advising	.441						
Services: Student health services	.358						
Services: Student psychological services	.444						
Services: Writing center	.511						
Services: Disability resource center	.452					-.336	
Services: Career services	.436						
Services: Academic advising	.421						
Faculty during office hours	.565						
Faculty outside of class or office hours	.485						
Academic advisors/counselors	.497						
Close friends at this institution						.365	
Close friends not at this institution							.815
Your family							.722
Graduate students/teaching assistants							
Close friends from your high school							.799

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 7 iterations.

APPENDIX D
SAMPLE DATA REQUEST LETTER

May 12, 2014

Dr. Kevin Eagan
Higher Education Research Institute
3005 Moore Hall/Box 951521
Los Angeles, CA 90095-1521

Dear Dr. Eagan:

I am writing to request HERI data files for research on postsecondary education. As a doctoral student and higher education administrator, I have been approved to conduct a study, "Best forms of involvement for first-year student veteran persistence."

The purpose of this study is to examine the relationship of pre-entry attributes, skills gained or lost, and student involvement to first-year persistence for first-year student veterans in comparison to first-year non-veteran students. The results of the study will contribute to the efforts of campus professionals to coordinate services and direct resources in order to better serve and increase the persistence of this population. Using secondary data, the study will examine maturity, prior academic deficiencies, family and work obligations, financial stress, psychological/physical health, and military service and training as prior learning experience as factors for pre-entry attributes in relationship to persistence. Additionally, the study will compare first-year student veterans with comparison groups: traditional first-year students, non-traditional first-year students, and first-generation first-year students. Finally, the study will identify what forms of student involvement work best for student veteran persistence. The study will also explore differences between student veterans at public/private institution types and commuter/residential status.

I am requesting access to the CIRP Freshmen Survey 2009 data and the Your First College Year Survey 2010 data for student veterans and comparison groups. The National Survey of Student Engagement (NSSE) 2010 data obtained from the Center for Postsecondary Research (CPR) at Indiana University will also be analyzed for this research. There are participants from 129 institutions that participated in both the CIRP Freshman Survey and the NSSE survey.

I look forward to hearing from you and the Higher Education Research Institute.

Sincerely,

Seuth Chaleunphonh
Doctoral Student
Educational Administration and Foundations
Illinois State University
schaleu@ilstu.edu
(815) 272-5824

APPENDIX E

SAMPLE FACULTY SUPPORT LETTER

May 12, 2014

Higher Education Research Institute
3005 Moore Hall/Box 951521
Los Angeles, CA 90095-1521

To whom it may concern:

On behalf of Illinois State University's Educational Administration and Foundations department, I support the dissertation project, "Best forms of involvement for first-year student veteran persistence," proposed by Seuth Chaleunphonh, doctoral candidate. As his advisor and dissertation committee chair, I have reviewed his dissertation proposal. Student veteran persistence is an important issue due to the growing student veteran population since the enactment of the Post-911 G.I. Bill in 2008. More empirical studies in this area will support the services provided by higher education professionals and inform campus leaders about resources needed to support the educational attainment of this unique population on our campuses. The use of secondary data in Mr. Chaleunphonh's design allows for him to analyze sample data from multiple institutions and to determine effective forms of student veteran involvement; be it academic or social, or a model containing a combination.

Our Doctorate in Higher Education Administration program allows experienced administrators to advance in their knowledge to further their career and enable them to make contributions to higher education. The topic and purpose of Mr. Chaleunphonh's study will do both.

Please do not hesitate to contact me if you have further questions.

Sincerely,

John Rugutt, Ph.D.
Associate Professor
Educational Administration and Foundations
Illinois State University
jkrugut@ilstu.edu
(309) 438-2051

APPENDIX F

ADDITIONAL FACTORIAL ANOVA FINDINGS

ADDITIONAL FACTORIAL ANOVA FINDINGS

For Research Question 2: Are there significant mean differences that exist between student veterans and the following groups: traditional students, first-generation students, or non-traditional students? The significant mean differences and interactions are reported in Chapter four. Below are results of the Factorial ANOVA analyses on the other independent variables that resulted as insignificant findings.

The following statements resulted from F-ratio not being significant when applying Factorial ANOVA on remaining insignificant independent variables. These represent variables with no significant relationships or interactions within and between comparison groups.

For traditional student comparison group:

- There is no difference in financial stress between traditional student veterans and nonveterans.
- There is no difference in financial stress within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for financial stress.
- There is no difference in Wellness pre-entry attribute between traditional student veterans and nonveterans.
- There is no difference in Wellness pre-entry attribute within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Wellness pre-entry attribute.
- There is no difference in Creative Expression Skills between traditional student veterans and nonveterans.
- There is no difference in Creative Expression Skills within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Creative Expression Skills.
- There is no difference in Academic Skills between traditional student veterans and nonveterans.

- There is no difference in Academic Skills within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Academic Skills.
- There is no difference in Academic Integration between traditional student veterans and nonveterans.
- There is no difference in Academic Integration within public or private institution types.
- There is no interaction between student veteran status and public/private institution type for Academic Integration.
- There is no difference in Academic Integration between traditional student veterans and nonveterans.
- There is no difference in Academic Integration within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Academic Integration.

For first-generation student comparison group:

- There is no difference in academic success between first-generation student veterans and nonveterans.
- There is no difference in academic success within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for academic success.
- There is no difference in financial stress between first-generation student veterans and nonveterans.
- There is no difference in financial stress within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for financial stress.

- There is no difference in Wellness pre-entry attribute between first-generation student veterans and nonveterans.
- There is no difference in Wellness pre-entry attribute within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for Wellness pre-entry attribute.
- There is no difference in Wellness pre-entry attribute between first-generation student veterans and nonveterans.
- There is no difference in Wellness pre-entry attribute within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Wellness pre-entry attribute.
- There is no difference in Creative Expression Skills between first-generation student veterans and nonveterans.
- There is no difference in Creative Expression Skills within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for Creative Expression Skills.
- There is no difference in Creative Expression Skills between first-generation student veterans and nonveterans.
- There is no difference in Creative Expression Skills within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Creative Expression Skills.
- There is no difference in Academic Skills between first-generation student veterans and nonveterans.
- There is no difference in Academic Skills within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for Academic Skills.

- There is no difference in Academic Skills between first-generation student veterans and nonveterans.
- There is no difference in Academic Skills within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Academic Skills.
- There is no difference in Academic Integration between first-generation student veterans and nonveterans.
- There is no difference in Academic Integration within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for Academic Integration.
- There is no difference in Academic Integration between first-generation student veterans and nonveterans.
- There is no difference in Academic Integration within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Academic Integration.

For non-traditional student comparison group:

- There is no difference in academic success between non-traditional student veterans and nonveterans.
- There is no difference in academic success within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for academic success.
- There is no difference in academic success between non-traditional student veterans and nonveterans.
- There is no difference in academic success within commuter/resident student statuses.

- There is no interaction between student veteran status and commuter/resident student status for academic success.
- There is no difference in prior learning experience between non-traditional student veterans and nonveterans.
- There is no difference in prior learning experience within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for prior learning experience.
- There is no difference in prior learning experience between non-traditional student veterans and nonveterans.
- There is no difference in prior learning experience within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for prior learning experience.
- There is no difference in financial stress between non-traditional student veterans and nonveterans.
- There is no difference in financial stress within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for financial stress.
- There is no difference in financial stress between non-traditional student veterans and nonveterans.
- There is no difference in financial stress within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for financial stress.
- There is no difference in Wellness pre-entry attribute between non-traditional student veterans and nonveterans.
- There is no difference in Wellness pre-entry attribute within public/private institution types.

- There is no interaction between student veteran status and public/private institution types for Wellness pre-entry attribute.
- There is no difference in Creative Expression Skills between non-traditional student veterans and nonveterans.
- There is no difference in Creative Expression Skills within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Creative Expression Skills.
- There is no difference in Academic Skills between non-traditional student veterans and nonveterans.
- There is no difference in Academic Skills within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for Academic Skills.
- There is no difference in Academic Skills between non-traditional student veterans and nonveterans.
- There is no difference in Academic Skills within commuter/resident student statuses.
- There is no interaction between student veteran status and commuter/resident student status for Academic Skills.
- There is no difference in Academic Integration between non-traditional student veterans and nonveterans.
- There is no difference in Academic Integration within public/private institution types.
- There is no interaction between student veteran status and public/private institution types for Academic Integration.

APPENDIX G
CONCEPT MAP

Concept Map

Maturity (Frederiksen & Schrader, 1950; Atwell, 1999; Pryor et al., 2009; Kim & Cole, 2013; Barnhart, 2011)

Changing Roles (Barnhart, 2011; Lang et al., 2013; Kim & Cole, 2013; Ly-Turnbull, 2010; Doenges, 2011)

Financial Stress (Gauntner, 1981; Sargent, 2009; McBain et al., 2012; Atwell, 1999; DiRamio et al., 2008; Bauman, 2009; Radford, 2009; Sternberg, 2009)

Psychological and Physical Health (Tanielian & Jaycox, 2008; NSSE, 2010; DiRamio, et al., 2008; Bauman, 2009; Barnhart, 2011; Gauntner, 1981, Tucker et al., 2005; Laffaye et al., 2008; Sargent, 2009; Cook & Kim, 2009)

Prior Learning Experience (CAEL, 2010; DiRamio et al., 2008; McBain et al., 2012; Lang & Powers, 2011)

Lower gains in academic achievement; need tutoring in math and writing (Kim & Cole, 2013; Pryor et al., 2009)

Greater cultural sensitivity, communication, interpersonal, and teamwork skills (DiRamio & Jarvis, 2011; Kim & Cole, 2013)

Involvement: Social and Academic

(Tinto, 1993; Astin, 1993; Astin, 1984; Pascarella & Terenzini, 2005; Summerlot et al., 2009; Cook & Kim, 2013; Kim & Cole, 2013; Feldman & Newcomb, 1969; Barnhart, 2009; NSSE, 2010)

Academic Success/Persistence

(Tinto, 1993; Pascarella & Terenzini, 2005; Noel et al., 1985; Breedin, 1972; Frederiksen & Schrader, 1950; Bound & Turner, 2002; Atwell, 1999; Barnhart, 2011; Lang & Powers, 2011; Lang et al., 2013)