An Analysis of Supports for Persistence for the Military Student Population

Bruce Mentzer, Ellen Lowrie Black, and R. Terry Spohn,
Liberty University

Abstract

This study sought to describe the correlation of academic, financial, and social supports to the persistence of a military student population: veterans, active duty and their families. The study also contrasted these relationships with those of nonmilitary students and looked at the results of both groups together to determine how supports correlated to persistence. Results confirmed the emphasis in the persistence literature on the importance of academic support mechanisms and noted their positive relationship to the military student population. Financial supports varied for the military student population, nonmilitary population and the overall group, with the military student population being negatively impacted by loans, nonmilitary students by university scholarships and the overall group by government grants and aid. An additional finding of this study was that institutional support emerged as a key support mechanism. This study recommends enhancing academic and institutional support for the military student population to reinforce their persistence.

Introduction

Education support for active-duty personnel, veterans and their families deeply shapes the American university (Burnett & Segoria, 2009; Dougherty & Woodland, 2009). Departments solely dedicated to the needs of this population, often labeled military affairs programs are now commonplace (Cook & Kim, 2009). These departments interface with the financial benefits provided to the university and often define their primary mission as support for social and academic needs (McCready, 2010). Research into the efficacy of the financial, academic and educational support mechanisms with this population group is sketchy and when conducted, largely qualitative; though many studies are planned in the near future (DiRamio & Jarvis, 2011).

The purpose of this study is to measure the financial, social and academic supports provided to military personnel, veterans and their families and determine the correlation of these elements to student persistence. In addition, this study will compare this population to a nonmilitary population and apply these findings to current practices, suggest new directions for teaching practice and note implications for higher education policy.

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Review of the Literature

Since the 1944 passage of the Servicemen's Readjustment Act the GI Bill was identified as a pathway to educational and professional achievement (Humes, 2006). With the 1932 Bonus March still fresh in Washington's memory, these benefits were intended to engage servicemen in education instead of having them flood the already full job market. These benefits were intended to repay citizens for their wartime sacrifice, returning them from devastation to peaceful leadership (Mettler, 2005; Smole & Loane, 2008). The 1944 legislation was crucial to rebuilding community leadership and citizenship among these veterans (Mettler, 2002, 2005).

The most recent GI Bill, the Post-9/11 GI Bill, returned to the themes of citizenship building and repayment for sacrifice (United States Congress House Committee on Veterans' Affairs, 2007); however, the Department of Defense (DoD) extended this benefit to families in exchange for additional years of service from the service member. Thus, the GI Bill became a retention tool for the active-duty force.

The U.S. Treasury predicted the new benefits to service members and their families would cost $63 billion from 2008 to 2016 (United States Congress Senate, 2008). From August 2009 to July 2014, the U.S. Department of Veterans Affairs (VA) issued $41 billion to support 1.2 million beneficiaries (U.S. Department of Veterans Affairs, 2014). In addition to the GI Bill, in 2013 the DoD funded about $625 million of tuition assistance (TA) for military members and an additional stipend, *My Career Advancement Account* (MyCAA) was provided to junior active-duty spouses for portable careers, costing about $100,000 in 2013 (Jowers, 2014).

Federal funding from the DoD and the VA to support educational costs totaled about $10 billion a year between 2009 and 2014 (Jowers, 2014; U.S. Department of Veterans Affairs, 2014; United States Congress Senate, 2008). Various states (e.g., Texas through the Hazelwood Act) may provide substantial funding and support to both the military student population (O'Donnell, 2013). In 2014, federal government support through the Department of Education was estimated to be about $24 billion in grants, $100 billion in student loan subsidies, $37 billion in tax subsidies and $1 billion in work-study programs (New American Foundation, 2014). Thus, through the DoD and VA, about one third of the federal grants-in-aid come from the GI Bill, military TA and aid to dependents. It should be noted that this aid is focused on a very small proportion of the U.S. student population.

In summary, financial support for veterans, active duty and their families continues to have a fiscal impact on the educational system and on the members themselves, enabling them to continue their education. Shifting of GI Bill benefits to family members will have a continued impact beyond the past legislation while retaining military members on duty. Systems to measure this continued benefit have received little attention from researchers.

Academic and social supports provided to the military student population received little attention in research literature. In 2010, the National Survey of Student Engagement noted that veterans were very much like their nonveteran counterparts academically; however, they spent six times more in dependent care, were more likely to have a job and felt less involved in school affairs. Implications for academic and social support were expected from this research but not provided. While focused on veterans with disabilities, Smith-Osborne concluded that academic, social and financial systems were important to veterans with mental health issues: veterans who received treatment from the VA for post-traumatic stress disorder (PTSD) were twice as likely to use their GI Bill benefits and attend college (Smith-Osborne, 2009a). Smith-Osborne also concluded that those who lived with family members had higher family incomes and had more health and educational benefits reflected a higher level of academic achievement. She noted that many veterans could use formal support at colleges to help them navigate academic challenges, financial aid, social support and mental health issues. Visualizing financial, social and support

mechanisms in relationship to student persistence provides an important extension of this research to student success literature.

Persistence and Support Mechanisms

For over four decades Tinto's theory on student persistence (Tinto, 1975; Tinto & Cullen, 1973) has contributed significantly to student success. Historically, persistence research has transitioned from a focus on the institutional setting (Feldman & Newcomb, 1969), to identifying reasons for drop out (Tinto, 1975), to correlating degree completion to drop-out rates (Pascarella & Terenzini, 1991), to encouraging progressive enrollment (Pascarella & Terenzini, 2005) and finally back to a focus on the institutional setting in the form of institutional action (Tinto, 2010, 2012). For the purposes of this study, second-year enrollment, degree completion and intent to persist are considered as overlapping facets of persistence (Bean & Metzner, 1985; Metzner & Bean, 1987).

Early in persistence research, academic, social and financial supports were identified as key mechanisms to keep students in college (Tinto, 1975, 1987). Studies into the impact of financial support on student persistence continue to yield conflicting results and most researchers agree that more study, especially of a longitudinal nature, is needed (Heller, 2010; La Nasa & Rogers, 2009; Pascarella, 2006). Some studies highlight the need to continue financial aid: especially for minority and poorer students, through degree completion (Chen, 2008; Kim, 2007; La Nasa & Rogers, 2009). Others note that student loans negatively impact persistence for these same students (Kim, 2007; Nora, Barlow, & Crisp, 2006). Hossler, Ziskin, Gross, Kim, and Cekic (2009) reviewed the financial aid literature and concluded that overall financial aid has a positive impact on persistence, debt has a negative impact and loans assist with degree completion.

In contrast to the unclear, complex financial aid picture, no support mechanism seems to have a clearer connection to student persistence than academic support. Since 1996, Pascarella et al. developed and used the Instructional Organization and Clarity Scale to measure academic preparation/organization and teaching skill/clarity (Pascarella, Seifert, & Whitt, 2008). A reliable and valid 10-item questionnaire ($\alpha = .89$) was used in two studies to show that an increase of 1 σ in academic support provided at least a 1.4 σ increase in student persistence or a 40% increase in possible enrollment (Pascarella, Salisbury, & Blaich, 2011; Pascarella et al., 2008). The first study ($n = 1,353$) established the causal variable as student satisfaction: "Our analyses suggest that most of the causal influence of overall exposure to organized and clear instruction on reenrollment decisions is indirect, being mediated (or accounted for) by level of satisfaction with the first-year education one is receiving" (Pascarella et al., 2008, p. 67). The second study ($n = 2,934$) longitudinally sampled 19 two-year and four-year institutions and confirmed the previous results:

> Thus, it would appear that the underlying causal mechanism explaining the positive impact of overall exposure to organized and clear instruction on second-year persistence is largely as follows: exposure to organized and clear instruction enhances student satisfaction with the overall college experience, which in turn increases the likelihood of reenrolling for the second year of college. (Pascarella et al., 2011, p. 16)

Academic support through the use of organized and clear instruction is clearly important to student persistence. Structural modeling showed this also to be true in a totally online environment where teaching presence, cognitive presence, social presence, usefulness of the online environment, student satisfaction and student persistence were all considered in a structural model (Joo, Lim, & Kim, 2011). In this international study, student satisfaction significantly predicted student persistence, which is also reflected in other studies of online learning in the United States (Tello, 2007).

Terinzini and Pascarella (1980) developed an instrument to measure academic and social support. They determined they could predict persistence in 75% of students with these two variables. This pairing of social and academic support set the stage for social support research in the literature for the next three

decades (Barnett, 2011; Crisp, 2010; Hossler, Ziskin, Moore III, & Wakhungu, 2008; Mannan, 2007; Pascarella & Terenzini, 1997). Karp (2011) recently surveyed these decades and noted four areas of support that increased persistence: creating relationships, clarifying aspirations paired with increasing commitment, developing knowledge about the college, and providing community safety. She noted that although the most social of these areas -making new relationships- contributed to persistence; her findings saw it as not significantly related to academic achievement.

Social support was general predicted to be of importance for veterans and their families (Ackerman, DiRamio, & Mitchell, 2009; Cook & Kim, 2009; DiRamio, 2011; DiRamio & Jarvis, 2011; Grimes et al., 2011; Rumann & Hamrick, 2009, 2010). Most of these studies were qualitative in nature and stressed the need for relationship connections to facilitate the transition from military culture to the culture of higher education. As noted above, Smith-Osborne (2009a, 2009b) studied PTSD veterans in higher education and observed that those with social supports from their families (along with their financial benefits) reflected a higher level of academic achievement. Other researchers have seen the need for mentoring (Crisp, 2010) and social encouragement in the community college setting (Barnett, 2011). Family encouragement was also seen as important across various university contexts (Hossler et al., 2008). In a decade-long program survey aimed at making recommendations for the community college setting, Karp (2011) noted four areas of support that increased persistence: creating relationships, clarifying aspirations/increasing commitment, developing know-how about the college and providing a community safety net.

In 2013, the Secretary of the VA announced a joint partnership between the VA and the Student Veterans of America to research the current veterans' graduation rates (Shinseki, 2013). The preliminary results showed that the current graduation rate was about 51% (Cate, 2014). This result was particularly surprising when contrasted with the 80% graduation rate of WWII veterans, 73% of Korean War veterans, and 68% of Vietnam War veterans. Given the robust financial support and social support being provided to current veterans, this research (though not finalized) was unexpected.

In summary, academic support is supported by the literature and linked through student satisfaction in bolstering persistence. Social support provided some support for persistence theory and was seen as especially important for PTSD-diagnosed veterans. Financial support research showed that loans undermine persistence, while overall financial support can be important in supporting persistence among minorities and some veterans. In general, focused research on veterans, military members and their families, though clearly anticipated, was not well described in the research.

Research Questions

The following research questions guided this study:

Research Question 1: What is the correlation of social support provided to the military student population with their intent to persist in higher education?

Hypothesis 1: The resulting null hypothesis from this question is that the correlation was not statistically significant between the social support systems and the military student population's persistence.

Research Question 2: What is the correlation of academic support provided to the military student population with their persistence in higher education?

Hypothesis 2: The resulting null hypothesis from this question is that no statistically significant correlation is identified between their academic support system and the military student population's persistence.

Research Question 3: What is the correlation of financial support provided to the military student population and students' persistence with their degree program?

Hypothesis 3: The resulting null hypothesis from this question is that no statistically significant correlation was identified between their financial support system and the military student population's persistence.

Research Question 4: What is the combined relationship of social, academic, and financial supports to the military student population's persistence in their education?

Hypothesis 4: The resulting null hypothesis from this question is that no statistically significant relationships exist between the combination of the support systems (social, academic and financial systems) and the military student population's persistence.

Research Question 5: What statistically significant differences exist for the social, financial, and academic support systems between nonmilitary students and the military student population?

Hypothesis 5: The resulting null hypothesis from this question was that no statistically significant differences exist for the social, financial and academic support systems between the military student population and nonmilitary students.

Research Question 6: What statistically significant differences exist for the persistence between the military student population and their nonmilitary counterparts?

Hypothesis 6: The resulting null hypothesis from this question is that no statistically significant differences exist in persistence between the military student population and nonmilitary students.

Method

The purpose of this study is to measure the financial, social, and academic supports provided to the military student population and determine the correlation of these elements to student persistence. In addition, this study will compare these results to nonmilitary students and note any differences between the two populations.

We chose to survey a group of students gathered at the nation's largest private, nonprofit university that had an emphasis in online education: Liberty University. The group was made up of 294 graduate students and included a cross section of racial, gender, and age groups (median age was 39.5 years). Of the 294 students, 12 were military members, 30 were veterans, and 38 were family members (27.2% had some association with the military, and 72.8% did not). About 80% were working on their master's while the rest were working in specialist or doctoral programs. Household sizes were 13.6% single, 22.8% with two in a household, 19.7% with three, 27.2% with four, and 16.7% with five or more in the household. From these general demographics, this group was much older, lived in larger households, and were working on more advanced degrees than most. This result would be expected to a degree due to the targeting of an adult group as our main population. When we used chi-square tests that compared 11 demographic and financial variables with whether the respondent was associated with the military, we found that seven were significant. Specifically, military respondents were more likely to be (a) older ($p = .001$); (b) male ($p = .004$); (c) non-Caucasian ($p = .01$); (d) living in larger households ($p = .003$); (e) more affluent ($p = .02$); (f) the recipient of government grants and aid ($p = .001$); and (g) the recipient of university provided scholarships ($p = .001$). In addition to these seven differences, the military student population respondents were slightly more likely to be married ($p = .07$).

The survey used for this study was a shortened form of the College Persistence Questionnaire Version 2 (CPQv2) by Davidson, Beck, and Milligan (2009). The survey consists of 73 items; however, items 54 through 73 were deleted because they are used for advising purposes only. Items 1 through 53 of the CPQv2 measure 10 factors: Degree Commitment, Social Integration, Financial Strain, Academic Motivation, Academic Integration, Academic Efficacy, Collegiate Stress, Advising, Institutional Commitment, and Scholastic Conscientiousness. Permission to use the CPQv2 was received from the authors.

The Degree Commitment factor provided a continuous variable to index with the other covariables. The financial support variable was drawn from the Financial Strain factor. Demographics were also drawn to better describe the financial picture for the students following the National Center for Educational Statistics (NCES) financial ranges for financial aid. Academic support was drawn from the Academic Motivation, Integration, and Efficacy factors, while the social support co-variable was drawn from the Social Integration and Collegiate Stress factors.

Correlation coefficients (R^2), an analysis of variance, and a combined analysis of the multiple coefficients were calculated. A multiple regression calculation was then used to determine the data most associated with the predictor variable, persistence. These results were analyzed at the $p < 5$ level to determine whether the hypotheses used in the study should be rejected (Ary, Jacobs, Razavieh, & Sorensen, 2006).

The hypotheses that guided this study centered on the correlation of the co-variables (social, financial, and academic supports) around the predictor variable, persistence, and the comparisons of the two groups, military and nonmilitary.

Results

The research questions looked directly at the military student population's intent to persist to social (Question 1), academic (Question 2), and financial support (Question 3). Our results showed that of the three, only academic support provided a significant contribution to the military student population's intent to persist, and even then it only provided 18% of the variance. Social support results were not significant ($r = .13$, $p = .25$), nor was financial support found to provide a significant result ($r = .09$, $p = .44$). Thus, we retained the null hypotheses for social and financial support and rejected the null hypothesis for academic support with this population. When we combined the three elements, we also rejected the null hypotheses [($p = .007$) with the model explaining 20.9% of the variance] mainly due to the contribution of the academic support factor in the CPQv2 for academic integration ($\beta = .31$, $p = .009$). A glance at Table 1 provides a quick snapshot of research Question 4:

Table 1 *Multiple Regression Model Predicting the Intent to Persist Based on the Combination of Support Systems (Social, Academic, and Financial) for the Military Student Population Subsample (n = 80)*

Scale score	B	SE	β	p
Intercept	0.93	0.16		.001
Academic Integration	0.29	0.11	.31	.009
Academic Motivation	0.12	0.09	.14	.19
Academic Efficacy	0.17	0.09	.21	.07
Financial Support	0.04	0.05	.10	.40
Social Integration	0.02	0.08	.03	.82
Collegiate Stress	0.00	0.07	-.01	.96

Full Model: F(6, 73) = 3.22, p = .007. R^2 = .209

When turning our attention to the differences between the nonmilitary and military student populations, research Question 5 provided two areas of significant, though minor, difference. Financial support ($p = .002$) provided a 3.6% difference between the two groups, with the military student population having the higher scores (see Table 2). Since we measured other areas besides the three support elements, we also discovered that institutional support showed a 1.5% difference ($p = .03$), with

the military student population again showing a higher score for this additional finding, which will be discussed below.

Table 2   *t-Test Comparisons of Selected Scale Scores Based on Type of Student (N = 294)*

Scale score	Military	n	M	SD	η	t	p
Academic Integration					.03	0.44	.66
	No	214	1.31	0.51			
	Yes	80	1.28	0.45			
Academic Motivation					.09	1.52	.13
	No	214	0.49	0.54			
	Yes	80	0.60	0.49			
Academic Efficacy					.04	0.61	.54
	No	214	0.91	0.58			
	Yes	80	0.95	0.51			
Academic Support					.05	0.82	.42
	No	214	0.90	0.40			
	Yes	80	0.94	0.32			
Financial Support					.18	3.19	.002
	No	214	-0.66	0.99			
	Yes	80	-0.25	0.98			
Social Integration					.03	0.56	.58
	No	214	0.54	0.67			
	Yes	80	0.49	0.64			
Collegiate Stress					.08	1.34	.18
	No	214	-0.54	0.77			
	Yes	80	-0.40	0.76			
Social Support					.04	0.66	.51
	No	214	0.00	0.51			
	Yes	80	0.05	0.49			
Advising					.06	1.06	.29
	No	214	0.77	0.89			
	Yes	80	0.89	0.88			
Institutional Commitment					.12	2.14	.03
	No	214	1.58	0.54			
	Yes	80	1.72	0.45			
Scholastic Conscientiousness					.05	0.88	.38
	No	214	1.24	0.74			
	Yes	80	1.33	0.70			

Our last research question comparing the persistence of the two groups found no significant difference between the military student population and nonmilitary students ($p = .33$); thus, we accepted the null hypothesis.

When financial, academic, and social supports were applied to the overall and nonmilitary populations, we found only slight variations using a multiple regression model. When looking at the total population, the overall model was significant ($p = .001$) and accounted for 17.2% of the variance in persistence. Inspection of Table 3 found that it was positively related to academic integration ($\beta = .28$, $p = .001$) and academic efficacy ($\beta = .24$, $p = .001$).

Table 3 *Multiple Regression Model Predicting the Intent to Persist Based on the Combination of Support Systems (Social, Academic, and Financial) for the Entire Sample (N = 294)*

Scale score	B	SE	β	p
Intercept	0.97	0.08		.001
Academic Integration	0.25	0.06	.28	.001
Academic Motivation	-0.01	0.05	-.01	.90
Academic Efficacy	0.19	0.05	.24	.001
Financial Support	0.00	0.03	.00	.98
Social Integration	0.02	0.04	.03	.65
Collegiate Stress	-0.04	0.04	-.07	.28

Full Model: $F(6, 287) = 9.91$, $p = .001$. $R^2 = .172$.

The CPQv2 provided 11 scales for study beyond the ones used to look at the financial, social, and academic supports. When these were included in our study, as noted in Table 4, they further reinforced the importance of institutional and academic support. The table below shows these 11 factors with the three different groupings. For the nonmilitary subsample, persistence was significantly related to 8 of 11 scale scores, with the largest correlations being institutional commitment ($r = .47$, $p < .001$), academic integration ($r = .36$, $p < .001$), and academic support ($r = .35$, $p < .001$). For the entire sample ($N = 294$), persistence was significantly related to 8 of 11 scale scores, with the largest correlations with institutional commitment ($r = .47$, $p < .001$), academic integration ($r = .36$, $p < .001$), and academic support ($r = .37$, $p < .001$). For the military student population, 4 of 11 scale scores provided the significant correlations with the largest scores in institutional commitment ($r = .44$, $p < .001$), academic support ($r = .42$, $p < .001$), and academic integration ($r = .36$, $p < .001$).

Once we looked at the correlation of these factors and the multiple regression models, we ran a stepwise regression model to look more closely at the relationships in the model with the differing groups. We decided to include the financial descriptive variables in these equations, which expanded the number to 20 variables.

When we looked at the nonmilitary group (Table 5), we found that five factors accounted for 30.5% of the variance in persistence. It was positively related to institutional commitment ($\beta = .40$, $p = .001$), academic efficacy ($\beta = .22$, $p = .001$), and scholastic conscientiousness ($\beta = .13$, $p = .03$). In addition, persistence was negatively related to the amount of university-provided scholarships ($\beta = -.13$, $p = .03$) and collegiate stress ($\beta = -.14$, $p = .02$).

Table 4 *Pearson Correlations for the Intent-to-Persist Scale With Selected Scale Scores Subdivided Into 3 Samples*

	Intent-to-Persist Scale score					
	Nonmilitary only		Military only		All respondents	
Scale score	$n = 214$		$n = 80$		$N = 294$	
Academic Integration	.36	****	.36	****	.36	****
Academic Motivation	.13		.21		.15	**
Academic Efficacy	.31	****	.26	*	.30	****
Academic Support	.35	****	.42	****	.37	****
Financial Support	.01		.09		.04	
Social Integration	.24	****	.12		.21	
Collegiate Stress	-.01		.06		.02	
Social Support	.15	*	.13		.15	**
Advising	.22	****	.18		.21	****
Institutional Commitment	.47	****	.44	****	.47	****
Scholastic Conscientiousness	.24	****	.12		.21	****

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

Table 5 *Multiple Regression Model Predicting the Intent to Persist Based on the Combination of Support Systems (Social, Academic, and Financial) for the Nonmilitary Subsample (n = 214)*

Scale score	B	SE	β	p
Intercept	0.92	0.10		.001
Academic Integration	0.26	0.08	.29	.001
Academic Motivation	-0.06	0.06	-.07	.30
Academic Efficacy	0.21	0.06	.26	.001
Financial Support	-0.02	0.03	-.05	.52
Social Integration	0.03	0.05	.04	.63
Collegiate Stress	-0.06	0.04	-.10	.17

Full Model: $F(6, 207) = 7.60$, $p = .001$. $R^2 = .180$.

Looking at the military student population using the stepwise multivariate model yielded slightly different results (see Table 6). Only three variables were significant ($p = .001$) and accounted for 32.0% of the variance in persistence. It was positively related to institutional commitment ($\beta = .41$, $p = .001$) and academic efficacy ($\beta = .24$, $p = .02$) and negatively related to the amount of loans ($\beta = -.28$, $p = .004$).

Table 6 *Stepwise Multiple Regression Model Predicting the Intent to Persist Based on Scale Scores and Demographics for the Military Population Subsample (n = 80)*

Scale score	B	SE	β	p
Intercept	0.90	0.18		.001
Institutional Commitment	0.38	0.09	.41	.001
Loans	-0.05	0.02	-.28	.004
Academic Efficacy	0.19	0.08	.24	.02

Full Model: $F(3, 76) = 11.91$, $p = .001$. $R^2 = .320$. Candidate variables = 20.

These additional findings extend the original study and provide some important material for discussion and consideration. Financial, social and academic supports are obviously not the only support that students need to complete their education. The overwhelming positive impact of institutional support must not be neglected. In addition, when juxtaposing these support elements against other demographic data gathered in this study, such as the loans and grants, the impact of this support over and against the negative impact of loans, grants, and aid should not be dismissed.

In general, institutional and academic support had the greatest impact on the students' intent to persist in this study. Having a sense of loyalty to the institution and receiving impacting instruction allowed these students to see their degree as important, achievable, and realistic. Short descriptions of these areas from the CPQv2 are summarized in Appendix A.

Discussion/Conclusions

This study on academic, financial, and social support mechanisms supports Tinto's theory on persistence (Tinto, 1975, 1997, 2012). When looking at the literature and applying it to practice all three elements have a role to play.

Recommendations from the literature review to increase persistence for academic, social and financial support are summarized in Table 8 (next page).

Recommendations from this study for the military student population are focused on the need to provide continued academic support. This study confirms important parts of the academic support research supporting its power and necessity for persistence (Pascarella et al., 2011; Pascarella et al., 2008; Terenzini & Pascarella, 1980). It also confirms and extends the findings of some of the financial aid research that emphasizes the negative role of loans in student persistence: loans also negatively impact the military student population. Thirdly, the recent emphasis on institutional identity and its importance for student persistence cannot be understated (Tinto, 2010, 2012). Persistence for the military, nonmilitary and the overall populations was strongly affected by institutional identity.

Table 8 *Recommendations to Increase Persistence From the Literature*

Support element	Recommendations	Source
Social support	Strengthen student–teacher relationships	Pascarella and Terenzini (1980)
	Provide mentoring	Crisp (2010)
	Involve families in encouraging completion	Hossler et al. (2008)
	Increase social networks	Karp (2011), Barnett (2011)
	Increase information within social networks	Smith-Osborne (2009a)
Financial support	Student loans decrease persistence	Kim (2007), Nora et al. (2006)
	Continue aid through degree completion for ethnic minority and poorer students	Chen (2008), Kim (2007), La Nasa & Rogers (2009), Nora et al. (2006)
	Provide one large source of financial aid	
	Integrate academic and financial aid counseling	Hossler et al. (2009)
Academic support	Focus on organized and clear instruction	Pascarella, Salisbury, & Blaich (2011)
	Strengthen student–teacher relationships	Pascarella & Terenzini (1980)
	Provide focused, first-year support integrated in the classroom	Tinto (2012)

As a result of this study, general recommendations for the military student population are as follows:

Table 9 *Recommendations to Increase Persistence for Military Students*

Support element	Recommendations for military student population
Institutional support	Stress university prestige and degree value
	Develop loyalty to the school
	Build confidence in degree program and school excellence
	Develop a strong sense of possibility of completing degree
	Demonstrate that the institution is committed to the degree and student
Financial support	Decrease reliance on student loans
Academic support	Focus on organized and clear instruction
	Strengthen student–teacher relationships
	Provide focused, first-year support integrated in the classroom
	Provide consistent feedback on grades and build effective skills and techniques
	Build interest in class sessions
	Construct consistent tests, syllabi, and course presentations

Having a strong institutional identity and academic presence provides a needed foundation for persistence for the military student population. The financial value of the education should be tied to the degree value, with loans to assist with the degree minimized. Though this study does not show a great need for social support mechanisms, these should not be neglected—especially for those who need social connection.

Beck and Milligan (2014) recently used the CPQ to look at institutional commitment in a strictly online population ($n = 831$ students). Institutional commitment results were congruent with this study; however, eight out of nine of the CPQ scales were found to be significant with the strictly online students. Only financial strain failed to achieve statistical significance. Their findings stress the need to reinforce Academic Integration, Degree Commitment and Advising factors with online students. Their conclusion

that their research was a "first-step" study resonates with the results of this study. Various interventions should be tried and measured before the online military student population clearly voices the factors that help with their degree commitment and persistence.

The limitations of this study center around the use of a one-school, graduate-only sample and may need further confirmation in other settings to provide strongly generalizable results. A longitudinal study that tracks students through degree completion and connects those who do not finish is strongly encouraged, though it may present a challenge when researching this highly mobile and transitioning adult population (Pascarella, 2006). Other variables that mediate the persistence process (such as student satisfaction) were not captured in this study, though they show great promise in bringing focus to persistence theory and practice (Pascarella et al., 2011). Clarifying the complexity of social supports and financial aid may also provide a more robust result in future studies. Confusion as to types and amounts of loans, scholarships, and other aid that students receive may have also affected the survey results and require definition in future studies. Lastly, studies that expand the social and financial aid picture for the military student population may also capture more of their unique context as adult students in college.

This study shows that the military student population exhibits stronger persistence when built on a foundation of institutional and academic support. Clear instruction, organization and course consistency from a committed university are the keys to degree completion for the military student population. Financial loans should be minimized and social supports -though not clearly within the needs of the students in this study- should not be neglected.

The students in the study population were primarily from an online study program. As a result of this study one may ask how online educators can best support their military student population to graduation. This study would suggest that the development of clearly organized classes with supported deadlines, well-written syllabi, engaged faculty and strongly committed and overarching institutional support are keys to helping the military student population graduate. Some studies conducted with the Community of Inquiry Model (CoI), strictly in the online environment, point to the connection of faculty to students and students to each other as keys to degree completion (Boston et al., 2014). Others dealing with the online military student population point to the need to reinforce the value of tasks and student satisfaction (Artino, 2007, 2009). These studies' results overlap with various facets of the current results while using differing methods, instruments and approaches to persistence theory.

Currently, universities stress the need to develop structures to provide transition, social support, emotional connection and financial advice (Burnett & Segoria, 2009; Selber & Chavkin, 2014; Summerlot, Green, & Parker, 2009; Whiteman, Barry, Mroczek, & MacDermid Wadsworth, 2013). A recent survey showed that 76% of universities had a military affairs program to manage these mechanisms, 60% expected these to be long term arrangements, and most had set long-term goals to expand programs and provide extensive marketing to the military student population (Cook & Kim, 2009). The results of the present study centered on persistence and show the need to place emphasis on the two core functions of the university: academics and institutional identity. Reinforcing resilience, providing support for mental health issues and weaving a social fabric may provide extremely important continuity for the military student population, as shown in other studies; however, this study provides an important basis to stress the deep learning, organized instruction and educational pride that the military student population seeks when targeting degree completion.

Authors Note

Bruce Mentzer is a recent graduate of Liberty University's Doctorate of Education; Ellen Lowrie Black and R. Terry Spohn are both faculty members at Liberty University.
Correspondence should be directed to Bruce Mentzer at bdmentzer@liberty.ed

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Appendix A

Institutional Support and Academic Support (Made up of Academic Integration, Academic Motivation and Academic)

Support element	Description

Institutional Support   Likelihood of earning degree from here
Likelihood of enrolling next semester
Confidence in choice of school
Thoughts about dropping out
Advantages or disadvantages of attending this school
Feelings of loyalty toward school

Academic Integration   Interest in class sessions
Fairness of tests
Accuracy of instructors' course previews
Rating the quality of instruction
Clarity of instructors and syllabi
Interest in class discussion
Usefulness of instructor feedback for improvement
Satisfaction with the quality of instruction
Feelings of capability instilled by instructors and courses
Understanding the thoughts of instructors in class

Academic Motivation   Weekly study time per credit hour taken
Completion of reading assignments before class
Willingness to devote extra study time when necessary
Procrastination in studying for tests
Reading relevant but unassigned material
Enthusiasm for academic tasks
Proofreading writing assignments before submission
Size of workload in an ideal course

Academic Efficacy   Correct anticipation of upcoming test questions
Confidence in making desired grades
Doubt about making desired grades
Perceived effectiveness of study skills and techniques
Self assurance of doing acceptable academic work

Taken from (Beck & Milligan, 2014)