The Role of Disability Services in Student Veterans' Private School Choices

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Abstract

Student veterans on college and university campuses are a unique, under-researched population. The current study (*n* = 119) investigated the criteria used when student veterans select a private, nonprofit college or university. A one-factor model of support for disability needs constructed from prior research was tested and found to have adequate fit. The factor support was used in structural equation modeling to test the relationship between demographic information, such as length of time in the military, and endorsement of disability services as a criterion for selecting the private, nonprofit college or university. Results indicate veterans who served more time in the military are more likely to select a school based on the presence of disability services.

Keywords: Student veterans, private, nonprofit college and university, disability services

Introduction

There are many reasons why individuals choose institutions of higher education. Chapman's (1981) College Choice Model demonstrates that both individual factors, such as important people influencing one's college decision, and external factors, such as college characteristics or recruitment efforts, contribute to a student's choice of college. Distinct differences guiding a student to choose public institutions include the lower tuition costs and higher acceptance rates as well as the appeal of having a larger variety of majors from which to select. For those who choose private schools, prominent factors for private school choice include smaller class sizes, university prestige, and opportunities for more specialized communities such as religious affiliations (Bierer, 2010). Studies of non-traditional students have also found that age is a predictor of college choice between public and private schools (Kortesoja, 2009).

In 2017, Student Veterans of America reported that 56% of GI Bill students attend public schools and 17% enroll at private schools. While veterans are choosing private institutions, the literature is relatively scant when addressing this specific veteran population. A review of the literature found many articles mentioning the inclusion of private *and* public schools in veteran-related studies (e.g. Alfred, Hammer, & Good, 2014; Barry et al., 2014; Bryan & Bryan, 2015), but more research must be done to distinguish unique characteristics of veterans in private colleges and universities (Barry et al., 2014; Hitt et al., 2015). Furthermore, to date, there have been limited studies of student veterans using quantitative data collection methods and analyses (Jenner, 2017).

Non-traditional students are defined as older, have additional family dependents, and more employment responsibilities than those students who enter college immediately from high school (Hunter-Johnson, 2017). Although student veterans, defined as those transitioning from the military to a higher education culture, fall under the non-traditional student category, they also may have unique characteristics related to military acculturation and combat experiences (Durdella & Kim, 2012).

According to the Department of Veteran Affairs (2017) approximately one million veterans have used education benefits through the Post-9/11 GI Bill to attend postsecondary institutions. For military veterans, decisions made to attend college after separating from the military are complex. Issues such as balancing school, life, and work; geographic mobility; and financial concerns are of special importance for veterans returning to academic life (Callahan & Jarrat, 2014). In fact, unlike traditional college students whose decision to pursue a postsecondary education may be voluntary, a veteran's decision to transition from the military to higher education may be driven by unique circumstances such as a service-related injury (Jenner, 2017). Others realize that attending college was important to their long-term personal goals (Bagby, Barnard-Brak, Thompson, & Sulak, 2015).

Institutional factors—administrative and strategic planning, advising and career services, psychological counseling services, as well as a veteran office on campus—have been shown to be important for returning veterans (DiRamio & Jarvis, 2011). Military veterans tend to select public two-year institutions and public four-year institutions (Wurster, Rinaldi, Woods, & Liu, 2013), perhaps due in part to the prevalence and likelihood of veteran-based programs at public institutions (Cook & Kim, 2009).

Studies examining veteran experience in higher education showed that veterans tended to interact with their academic environment differently than the traditional undergraduate student (Livingston, Havice, Scott, & Cawthon, 2012). In one study, the presence of a veteran coordinator increased the likelihood of student reported retention in college by almost 700% (Bagby et al., 2014). Findings regarding significant differences between public and private universities in regard to veteran services remain unclear (Hitt et al., 2015). Similarly, Bagby et al. (2015), suggested the need for additional research examining public versus private institution services correlated with veteran outcomes.

Veterans who return to the university setting may have a stronger need for mental health services compared to students who have not served in the military. Results from an analysis of 13 peer-reviewed studies found "higher rates of health risk behaviors and psychological symptoms and personal and educational adjustment difficulties" in student veterans than in traditional students (Barry, Whitman, & Wadsworth, 2014, p. 30). Given student veterans' military training and experiences, Vacchi (2012) suggested that one of the most overwhelming tasks for a veteran is admitting and asking for help when needed. As mental health issues negatively impact academic performance (Bryan, Bryan, Hinkson, Bichrest, & Ahern, 2014), it is important to aid student veterans struggling with emotional or mental health concerns.

Although college life can be stressful for all students, student veterans often have additional stressors (Young, 2017). Compared to traditional college students, student veterans' stress can arise from the gap of time between last classroom learning (e.g., high school) and postsecondary enrollment, the lax civilian student discipline in the classroom, and frustrations of being surrounded by younger peers who veteran students describe as out of touch with the real world (Osborne, 2016; Young, 2017). Contrasted with the structure of the military, student veterans also struggled with adjusting to the autonomous environment associated with college such as organizing their time and planning their work (Bagby et al., 2015).

Many student veterans considered the postsecondary transition to be one of the most challenging adjustments in reintegration (DiRamio, Ackerman, & Mitchell, 2008). For the 62% of student veterans who are also first-generation college students, additional stress can result from limited background knowledge and family support related to navigating the complexities of college (Cole & Kim, 2013). Other mental health concerns for student veterans include adjustment difficulties (Barry, Whiteman, & Wadsworth, 2014), being alienated on campus (Elliott, Gonzalez, &

Larsen, 2011), having a lack of life meaning, needing more therapy services, and engaging in activities at lower levels (Dutra, Eakman, & Schelly, 2016).

PTSD. Student veterans are more likely to have post-traumatic stress disorder (PTSD) symptoms than nonveteran students (Dutra et al., 2016; Elliott et al., 2011). In fact, Rudd, Goudling, and Bryan's (2011) survey research with student veterans found that the average scores for depression, anxiety, suicidal thoughts, and combat exposure were all at clinical levels, indicating the average student veteran reported symptoms consistent with PTSD, with 46% whose scores exceeded the PTSD cutoff levels. However, some studies have not found that veterans are disproportionately affected psychologically (Bryan & Bryan, 2015; Cleveland, Branscum, Bovbjerg, & Thorburn, 2015), indicating a lack of clarity within the field. With respect to PTSD services on specific campuses, 34% of private, nonprofit four-year colleges and 54% of public universities, reported having trained counseling staff to assist veteran students with brain injuries, PTSD, and other health issues (McBain, Kim, Cook, & Snead, 2012).

Physical injuries/disabilities. Student veterans often have physical injuries in addition to psychological injuries (Young, 2017). Injuries to the back or limbs can make walking to class or sitting in a classroom for long periods more difficult (Young, 2017). Veterans may struggle with tinnitus or hearing loss, making listening to classroom lectures and participating in discussions more problematic (Young, 2017). Furthermore, Aikins, Golub, and Bennett (2015) found that many student veterans had a Traumatic Brain Injury (TBI). A TBI may negatively impact attention, cognition, memory, and be accompanied with other physical or mental symptoms (Defense and Veterans Brain Injury Center, 2016). Missing classes or study time to attend appointments at the VA, or navigate the university disability accommodations process, may further compound a student veteran's ability to be successful academically (Young, 2017). Several years ago, 63% of public universities and 42% of private four-year institutions indicated having a trained staff member to address the needs of student veterans with disabilities, whereas only 13% of public and 10% of nonprofit colleges had specific support groups for veterans with disabilities (McBain et al., 2012).

Wurster et al. (2012), reported that first-generation students tend to have weaker academic preparation than peers whose parents attended college, and that student veterans are likely to be first-generation students. Shackelford (2009) reported that many student veterans have learning disabilities. These disabilities may preexist military training but may not have been diagnosed or properly addressed because of economic barriers. Furthermore, the learning disability may have increased in severity as a result of its interaction with service-related experiences or conditions. As previously mentioned, TBI injuries may also result in learning disabilities. Approximately 16% of student veterans in Vance and Miller's (2009) research indicated the presence of a learning disability. The most commonly used academic accommodations indicated included online/evening courses and adjustments to course requirements. While one school indicated that approximately 20% of student veterans had attention-deficit disorder or attention-deficit/hyperactivity disorder (ADD/ADHD) (Hope, 2016), there appears to be limited resources for meeting the needs of this unique population.

As a follow-up to a previous study that examined student veterans' intentions to remain at their institutions (Bagby et al., 2014), the purpose of the current study was to investigate how disability services may be related to the selection of a private, nonprofit higher education institution. The following research questions were addressed:

1. What is the relationship between the length of time in the military and selection of a private, nonprofit institution based on services offered for disabilities?

2. What is the relationship between the length of time attending the current university or college and selection of a private, nonprofit institution based on services offered for disabilities?

3. What is the relationship between gender and selection of a private, nonprofit university or college based on services offered for disabilities?

Methods

Participants

The current study analyzed data from a nationwide survey of veterans attending private, nonprofit colleges and universities. Participants (N = 119) were accessed through the veterans' coordinator or Facebook page of the campus. Therefore, there was no way to calculate the survey's rate of return. Participants included 68.1% male and 22.9% female (see Table 1). Over 40% of participants were 25-29 years old at the time of the survey. The greatest number of respondents attended school in the South (33.6%), followed by the Northeast (23.5%), the Midwest (20.2%,), and the West (15.1%). Participants indicated their branch of service was Army (41.2%), Navy (20.2%), Marine Corps (20.2%), Air Force (15.1%), and Coast Guard (2.5%).

Table 1
Descriptive Statistics for Gender, Age, Geographic Area, and Branch of Military

Variable	Response	% of N = 119	n
Gender	Male	68.1%	81
	Female	26.9%	32
	Did not respond	5%	6
Age in years	18-24	7.6%	9
	25-29	41.2%	49
	30-34	17.6%	21
	35-39	10.1%	12
	40 or older	18.5%	22
	Did not respond	5.0%	6
Area of U. S.	Northeast	23.5%	28
	South	33.6%	40
	Midwest	20.2%	24
	West	15.1%	18
	Did not respond	7.6%	9
Branch of Military	Army	41.2%	49
	Navy	20.2%	24
	Air Force	15.1%	18
	Marine Corps	20.2%	24
	Coast Guard	2.5%	3
	Did not respond	0.8%	1

Procedures

Following IRB approval, data were collected via a 24-item online survey from student veterans attending private, nonprofit colleges and universities across the country. Participants were recruited by contacting the 233 chapters of the Student Veterans of America (SVA) at private, nonprofit colleges and universities. Initially, the SVA veteran service coordinators were sent an email requesting that they forward the survey link to the student veterans on their campus. Two months later, a second request was sent through the Facebook page of the participating schools. A screening

question at the beginning of the survey ensured that responses were gathered from student veterans who had formerly served in the U.S. military and were not serving on active duty at the time of survey completion.

Measures

The survey used in the current study was created using theoretical frameworks and empirical research on college and university selection as well as college and university attributes that support successful matriculation of veterans. The work of Goodman, Schlossberg, and Anderson (2006) and Rumann and Hamrick (2010), were instrumental in the development of the survey's overall focus as well as the specific questions. The survey was pilot tested with 10 student veterans enrolled in a military transition course during their first semester at the researchers' university. Modifications were made to the survey questions based on the student veterans' feedback.

The survey contained demographic questions and opinion questions measured on a six-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The opinion section addressed the following topics: campus climate regarding student veterans; financial concerns and supports; advisement and career services for veterans; admissions, social supports, disability and mental health services; academic supports; and overall college experience. The current study, however, only reports on items from the disability and mental health services (see Table 2). The stem for specific questions used in this study was "Regarding student disability services, I chose my college/university because my school …"

Table 2
Coding Key and Descriptive Statistics for Responses to Potential Reasons for College Choice

Coding level	2			5		
Response Option						
	1 Strongly disagree %	Disagree %	3 Somewhat disagree %	4 Somewhat agree %	Agree %	6 Strongly Agree %
Offers mental health specialists in veterans' issues (*n* = 110)	35%	25%	9%	12%	7%	4%
Has a specialist trained for physical disabilities	29%	27%	13%	12%	5%	5%
Offers veteran specific support for individuals with learning disabilities & ADHD	37%	24%	8%	7%	9%	6%
Has a specialist trained for trauma/PTSD available	38%	27%	9%	9%	4%	4%

Note. Due to missing data, total response percentages may not equal 100.

Analysis

Analysis included three phases: descriptive analysis and assumptions, confirmatory factor analysis (CFA), and structural equation modeling (SEM). All descriptive statistics for variables included in the study were analyzed using SPSS (*v*.23) and are reported in the participants' section as well as in Tables 1 to 3. All multivariate statistics, including CFA and SEM, were analyzed using M*plus* (*v*.7.11). M*plus* is a software program used for analyzing latent variables and other complex models.

The assumptions for using CFA and SEM include multivariate normality, a large enough sample size to perceive effects, and model specification from theory or past analysis. The current

sample size of N=119 limits the number of parameters included in a model because the likelihood of inaccurate standard errors rises as the sample size decreases. Smaller sample sizes, such as the one in the current study, reduce power and make finding significance more challenging. Multivariate normality was assessed by estimating the CFA model using maximum likelihood and also by MLM, which estimates parameters with robust standard errors as suggested by Kelloway (2014). Maximum likelihood estimation provides consistent estimates of parameters given the existing data unless the data are normally distributed, but when data are non-normal, MLM outperforms maximum likelihood by adjusting the chi-square test and standard errors (Muthén & Muthén, 2012). By comparing the fit of both models, we could determine if the items meet multivariate normality. If multivariate normality is not tenable, then there will be differences in fit and MLM should be reported.

The model used in the current study was specified on content from current literature on college and university services for disability and mental health. In addition, missing data may impact the results in CFA and SEM, particularly if the missing data are not completely at random. Missing data in survey research are often related to the analyzed variables and thus is considered missing at random, a condition which may bias results (Rubin, 1976). To assess this, missing data were analyzed using Little's Missing Completely at Random test (Li, 2013) in SPSS (v.23).

Confirmatory Factor Analysis. Confirmatory factor analysis (CFA) using *Mplus* (v.7.11) was conducted to assess the structure of the latent factor, Student Disability Services, using either the MLM or maximum likelihood estimator as determined by the analysis of assumptions. CFA is an appropriate analytical tool when the covariation among items is best explained by a non-measured or latent variable; in the current study, the relationship between the items is best explained by the latent variable Student Disability Services (Kelloway, 2014). The theoretically-constructed factor, Student Disability Services, included four items:

- offers mental health specialists in veterans' issues
- has a specialist trained for physical disabilities available
- offers veteran-specific support for individuals with learning disabilities and ADHD
- has a specialist trained for trauma/PTSD available

It was assumed these variables would have an underlying latent factor because prior research indicated these were attributes of student disability services, the indicators are not causally related, and all indicators shared some variance (Bentler & Chou, 1987).

CFA fit was assessed using chi square (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Because of the small sample size, fit indices that are more conservative with small samples were included along with more traditional fit indices. Fit was assessed by the following criteria: nonsignificant χ2; CFI and TLI > .95 (Bentler, 1990; Bentler & Bonnet, 1980; Tucker & Lewis, 1973); RMSEA < .06 (Steiger, 1990); and SRMR < .08 (Browne & Cudeck, 1993; Hu & Bentler, 1999).

Structural Equation Modeling. The latent mean of Student Disability Services was regressed on three variables: length of time served in military, length of time at current school, and gender of participant. While CFA is appropriate for assessing the structure of a construct, structural equation modeling allows simultaneous estimation of models that assess structure and additional predictors or covariates (Kelloway, 2014). For the current study, it was important to assess the structure of the latent variable Student Disability Services as well as the predictive value of certain demographics such as length of time in the military. In addition, some predictors, like age or branch of military, were not included as an attempt to maintain the most parsimonious model of the phenomenon. As

with the CFA model, fit was assessed using the following criteria: non-significant χ2; CFI and TLI > .95; RMSEA < .06; and SRMR < .08 (Browne & Cudeck, 1993; Hu & Bentler, 1999).

Results

For the first step of analysis, data were analyzed descriptively and multivariate normality was assessed by estimating the model using two different estimators, MLM and maximum likelihood for the CFA. Descriptive statistics for length of military service and length of time at current institution may be found in Table 3.

Table 3
Descriptive Statistics for Variables Used in Analysis

Variable	Code	Coding Levels	% of $n = 119$
Length of time served in military	1	0 to 5 years	48%
	2	6 to 10 years	24%
	3	11 to 20 years	13%
	4	20+ years	9%
		Missing	6%
Length of time at current school	1	1 semester	7%
	2	2 semesters	25%
	3	3 semesters	12%
	4	4+ semesters	51%
		Missing	5%

A comparison of the differences in fit indices showed no decrease in fit due to estimator and therefore demonstrated the data meet multivariate normality and the maximum likelihood estimator would provide accurate parameter estimations. Little's Missing Completely at Random test (Li, 2013) demonstrated all missing data was completely at random, $\chi^2(980) = 1021.5$, $p = .174$. All diagnostic assessments of the data indicate it is appropriate to use a CFA and SEM to assess relationships among the variables. Table 4 includes the correlations between student choice variables.

Table 4
Correlation Matrix for Student Choice Variables

Variable	12-1	12-2	12-3	12-4
Offered mental health specialist in veterans' issues	---			
Has a specialist trained for physical disabilities	.83	---		
Offered veteran specific support for individuals with learning disabilities and ADHD	.79	.80	---	
Has a specialist trained for trauma/PTSD available	.81	.79	.80	---

To assess the structure of the latent variable, Services, a single-factor CFA was estimated using maximum likelihood, which handles missing data by using all available data to produce estimates. It has been shown to produce unbiased parameter estimates and standard errors (Muthén & Muthén, 2012). As the items used for the CFA did not contain any missing data, no procedures for missing data were included in this phase of the analysis. The CFA model for Services demonstrated goodness of fit by most indicators: $\chi^2(2) = 1.37$, $p = .50$; CFI = 1.0; TLI = 1.0; RMSEA = .00 (90% CI = .00 to .10); and SRMR = .01.

The RMSEA 90% confidence interval was larger than expected, but the point estimate was within range and the probability of RMSEA<.05 was .60. The model was determined to have an acceptable fit to the data based on all other indicators. All paths were significant and the results for the CFA and SEM are in Table 5. Modification indices suggested no areas of strain for the CFA.

Table 5
Loadings for 1-Factor Model of Veteran Mental and Physical Health Support

Variable	Confirmatory Factor Analysis		Structural Equation Modeling	
	Unstand-ardized	Stand-ardized	Unstand-ardized	Stand-ardized
Offered mental health specialist in veterans' issues	**1.37** (.11)	**.91** (.02)	**1.33** (.11)	**.91** (.02)
Has a specialist trained for physical disabilities	**1.33** (.11)	**.90** (.02)	**1.37** (.11)	**.90** (.02)
Offered veteran specific support for individuals with learning disabilities and ADHD	**1.27** (.10)	**.88** (.02)	**1.26** (.10)	**.88** (.02)
Has a specialist trained for trauma/PTSD available	**1.44** (.12)	**.89** (.02)	**1.44** (.12)	**.89** (.02)
Length of time in military			**.42** (.17)*	**.22** (.09)*
Length of time at current school			-.23 (.18)	-.13 (.10)
Gender			-.17 (.22)	-.09 (.12)

Note. All bolded values are significant to at least $p<.01$ unless followed by an asterisk. Asterisk indicates $p <.05$. Standard errors are shown in parentheses.

The SEM including the length of time served in military, length of time at current school, and gender also demonstrated good fit with $\chi^2(28) = 28.63$, $p = .43$. All paths in the CFA remained significant, but of all the new paths added for the SEM, only length of time in the military was significant. The results from the SEM indicate that length of time at current private institution and gender did not impact the participants' choice of college/university based on specific services offered. Length of time in the military, however, was positively related to selecting a private, nonprofit college based on the presence of student disability services. This relationship represents a small to moderate effect (Field, 2017). Standardized results for the SEM may also be found in Figure 1.
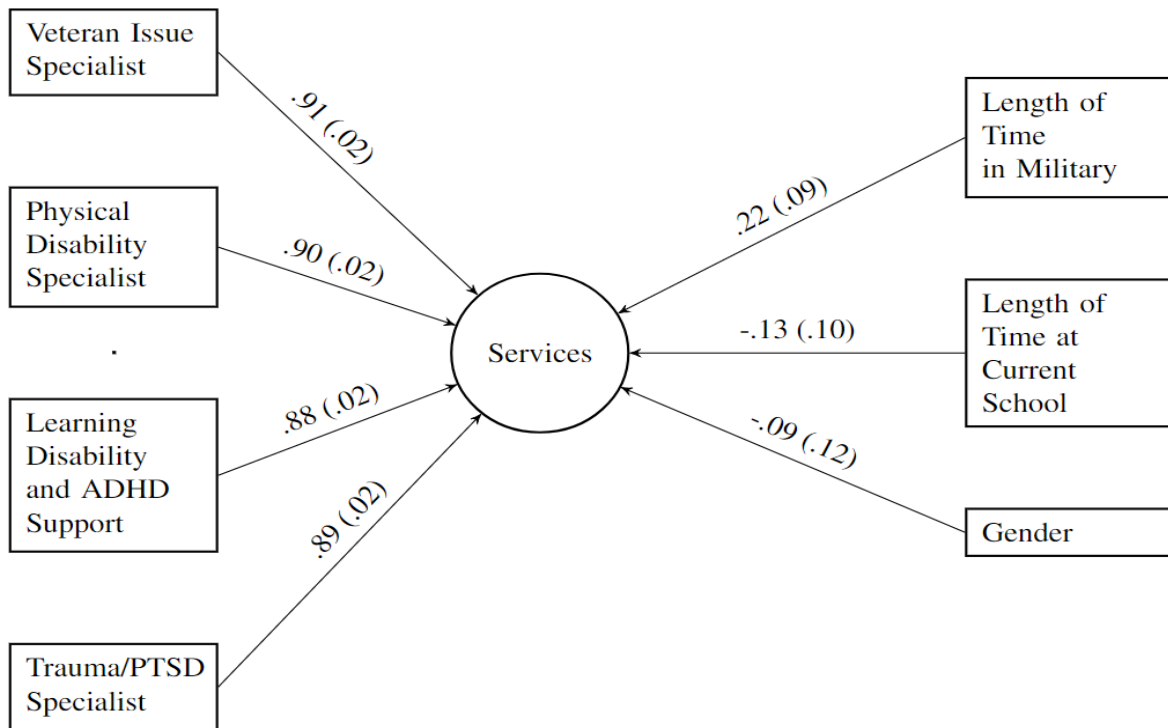

Figure 1. Standardized results from the SEM

Discussion

Overall, student veterans who served for a longer period in the U.S. military are more likely to select private, nonprofit colleges and universities based on the presence of student disability services. Given nonsignificant findings in the SEM, student veterans' selection of an institution with disability supports; however, is not associated with the length of time they have attended their present school. Furthermore, this research suggests that there is no difference between males and females in the selection of a private, nonprofit university or college with veteran specialists and disability services.

Despite the need for disability services, veterans underreport their needs, are hesitant to find the appropriate mental or physical health services (Weiss, Coll, & Metal, 2011), and participate in treatment at low levels (Bonar, Bohnert, Walters, Ganoczy, & Valenstein, 2015). Results from this study indicated that student veterans who spent more time in the military were more likely to choose a private, nonprofit university or college based on the presence of student disability services.

Specifically, the results of the current study indicate student veterans who spent more time in the military choose private, nonprofit universities or colleges that offer disability services. The findings of the current study may or may not be consistent with previous findings specifically on PTSD and age. For example, Nyaronga and Toma (2015) found that PTSD symptoms were more prevalent in student veterans less than 27 years old compared to older student veterans. Although our research found that student veterans with longer service records (who were likely older) made their institutional selection, in part, based on the availability of disability services, we cannot infer that these veterans were experiencing more PTSD symptoms than their peers who spent less time in the military and are likely younger. It may be that student veterans with longer service careers believe that these services may be needed in the future or that the presence of a specialist indicated a more veteran-friendly campus.

Previous research has reported that student veterans may be reluctant to disclose existing disabilities (Kranke, Weiss, & Brown, 2017; Shackelford, 2009); however, those who expressed a greater need for mental health care were more likely to initiate treatment (Spoont et al., 2014). We are encouraged with the findings of this study because it indicates that perhaps student veterans with longer lengths of service are not only open to seeking disability services, but are selecting a higher education institution based on the availability of those services. For colleges and universities wanting to provide adequate disability services for their student veterans, knowing the perceptions held by different lengths of service of veterans can impact the strategies used to get the veterans the needed services.

These findings have implications for recruiters at private institutions. The student veterans in this sample did make the important college decision based on information regarding veteran services. Making information well known about veteran services, especially the disability services on campus, can change students' choices. This is especially true for veterans who are returning to an institution after serving in the military for a long period of time. Recruiters and universities in general, should address the varied needs of student veterans not only in what they offer, but in how they promote those services. These results also have implications for veteran coordinators. Coordinators can promote disability services to student veterans who have served longer, especially in the beginning of their time with the students before they know the students' individual needs.

Given that student veterans represent a unique population on college and university campuses (Barry et al., 2014), and that there is considerable financial investment provided by the federal government through the Post-9/11 GI Bill (Garrity, 2017) and the Yellow Ribbon Program, empirical data is needed to inform decisions made at these institutions of higher education.

In conclusion, not all student veteran characteristics impact students' decisions to attend a private, nonprofit university. It appears that length of time in the U.S. military matters while other characteristics—namely gender and time at that university—are not statistically significant in predicting students' choices. While this quantitative study adds to the literature on student veterans and disability services, there is a need for additional studies examining the characteristics of student veterans selecting and attending private, nonprofit colleges and universities.

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