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A Comparison of Factors that Impact Retention of Nursing Students With and Without Military Experience: A Mixed Method Study

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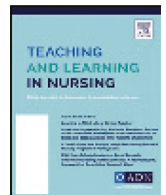
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A comparison of factors that impact retention of nursing students with and without military experience: A mixed method study

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ABSTRACT

Military veteran students have unique characteristics and challenges that influence their academic success. The factors impacting retention of nursing students with prior military experience may differ from students with no military experience. This mixed methods study used an anonymous survey guided by Jeffreys' Nursing Undergraduate Retention and Success Model to identify factors that support or restrict prelicensure nursing program retention of military veteran students compared to students with no history of military service. Statistically significant differences between groups were detected for three factors including financial status, membership in nursing organizations or clubs, and financial aid and/or scholarship. There was a clear distinction between traditional and nontraditional students. Three qualitative themes emerged: Responsibilities and support systems, well-being and coping, program support, and caring. Results of this study can be used by nursing faculty to develop strategies to support the academic success of prelicensure nursing students, and specifically to meet the unique needs of students with prior military experience.

College enrollment of students with a history of military service has increased in nursing programs (Dyar, 2019). The academic needs of nursing students with prior military experience may differ from those of students with no military experience (Coll & Weiss, 2015; Elliott et al., 2020). Military veteran students (MVS) are often first-generation students with no experience navigating academia (PNPI, 2019) and unlike the traditional college student, MVS are typically older, non-traditional students who are balancing work, family, and finances with academic coursework (Cox, 2019; Patterson et al., 2019). Frequent service-related relocations and inability to relate to civilian classmates may contribute to feelings of isolation on campus and difficulties assimilating to the classroom setting (Cox, 2019). Educators are often challenged to support their academic needs (Safer et al., 2020).

Literature specific to military nursing students is scarce (Dyar, 2019), and the factors that impact their academic success have not been fully explored. With the goal of gaining a better understanding of the needs of MVS, this study examined factors that support or restrict prelicensure nursing program retention from the viewpoints of students with and without military experience. Our research question was: Is there a difference in perceptions of how restrictive or supportive select factors are on retention in nursing programs

between students with military experience compared to students with no military experience? Institutional Review Board approval was obtained.

Theoretical Framework

The Jeffreys' (2012) Nursing Undergraduate Retention and Success Model provides a theoretical framework for this study. According to the model, there are multiple factors that support or restrict retention and success in nursing programs. This study measured specific academic, environmental, professional integration, and socialization variables as identified by Jeffreys to determine if factors affecting retention in nursing programs were different for MVS than for students without military service. For the purposes of this study and consistent with the model, the terms retention and success are used interchangeably.

Methods

Study Design and Sample

This mixed methods study used an online survey to identify nursing students' perceptions of the academic, environmental,

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professional integration, and socialization variables that restrict or support retention in prelicensure programs. Restrictive and supportive factors as perceived by MVS and non-MVS were compared as well as key differences between traditional (age 24 and under) and nontraditional (age 25 and older) students. Qualitative data from open text responses gave depth and context to the survey results. A convenience sample was recruited across the United States via email distribution lists, targeted social media posts, and snowball sampling. Eligible participants included nursing students who were currently enrolled in a prelicensure program or had graduated within the past six months. Data were collected online using Qualtrics survey software, a secure, password-protected system accessible from most common browsers.

Instruments

Participants were asked to complete a demographic questionnaire, the Jeffreys' Student Perception Appraisal-Revised Pre-Test (SPA-R1) tool, and a 4-item qualitative questionnaire.

Demographic Questionnaire

Demographic data such as age, race, gender, ethnicity, marital status, employment status, and whether they were first-generation college students were collected for comparison (Table 1).

Table 1
Comparison of Demographic Variables Between Groups

Variable	Military Veteran Students (MVS)	No Prior Military Experience (Non-MVS)
Mean age	31.5 years (n = 62)	25.8 years (n = 351)
Marital status	60% married (n = 36)	22.5% married (n-80)
	20% single (n = 12)	62.5% single (n = 222)
	8.3% single living with partner (n = 5)	12.1% single living with partner (n = 43)
	10% divorced (n = 6)	2.5% divorced (n = 9)
	1.7% widowed (n = 1)	0.3% widowed (n = 1)
Gender	32.8% male (n = 20)	8.4% male (n = 30)
	67.2% female (n = 41)	91.3% female (n = 327)
		0.3% non-binary (n = 1)
Ethnicity	14.8% Hispanic (n = 9)	9.6% Hispanic (n = 34)
	85.2% non-Hispanic (n = 52)	90.4% non-Hispanic (n = 321)
Race*	24% African American (n = 15)	14.5% African American (n = 52)
	4.8% American Indian/ Alaska Native (n = 3)	0.6% American Indian/ Alaska Native (n = 2)
	0% Pacific Islander (n = 0)	0% Pacific Islander (n = 0)
	69.4% White or Caucasian (n = 43)	75.4% White or Caucasian (n = 270)
	6.5% Other (n = 4)	3.6% Other (n = 13)
First-generation college	35% (n = 21)	26.5% (n = 94)
Has dependent children	55% (n = 33)	21.7% (n = 77)
Prelicensure program type	14.5% Associate degree (n = 9)	23.5% Associate degree (n = 84)
	85.5% Bachelor's degree (n = 53)	76.5% Bachelor's degree (n = 273)
Employment	51.7% None (n = 31)	34.1% None (n = 121)
	48.3% Employed (n = 29)	65.9% employed (n = 234)
Military affiliation	Active Duty (n = 6)	N/A
	Veteran (n = 41)	
	Reservist (n = 4)	
	ROTC (n = 3)	
	Retired (n = 6)	

 * Participants could endorse more than one racial category.

Student Perception Appraisal Tool

A license was obtained for use of the SPA-R1 tool from Jeffreys' Nursing Student Retention Toolkit. The SPA-R1 is a Likert scale survey consisting of 27 questions measuring student perceptions of academic, environmental, professional integration, and socialization factors that influence retention in nursing courses. The six-point Likert scale includes a response item of 1 for "does not apply" with the remaining response items ranging from a score of 2-6, "severely restricts" to "greatly supports."

Psychometric testing on the original 1998 Student Perception Appraisal demonstrated moderate to high correlations for all variables on test-retest reliability as well as strong content validity as evaluated by experts in nursing education, academic support services, and student retention (Jeffreys, 2007). The revised Student Perception Appraisal Pre-Test and Post-Test (SPA-R1 and SPA-R2), developed in 2007, includes the addition of four questions to capture socialization and professional integration variables. Content validity for the SPA-R1 and SPA-R2 was 1.0 and Cronbach's alpha internal consistency for all 27 items was 0.82 (Jeffreys, 2007).

Qualitative Questionnaire

A supplemental qualitative questionnaire was developed by the researchers, based on concepts in the SPA-R1, to further explore how specific factors positively or negatively influenced students' ability to succeed. The qualitative questions were:

1. In one word, describe the factor that has most positively impacted your ability to succeed in nursing school.
2. Please elaborate on how this has positively impacted your ability to succeed.
3. In one word, describe the factor that has most negatively impacted your ability to succeed in nursing school.
4. Please elaborate on how this has negatively impacted your ability to succeed.

Data Analysis and Results

Results of this study describe students' perceptions of restrictive and supportive factors that influence retention in nursing courses. Statistical analysis was performed using IBM SPSS 27. Descriptive statistics were used to analyze demographic data and nonparametric inferential statistics were used to compare groups.

Descriptive Analysis

Demographics

A total of 434 participants who were either currently enrolled or recent graduates (within the past 6 months) of a prelicensure nursing program completed the study. Of the 434 participants, 419 reported their program degree level with 22.2% (n = 93) and 77.8% (n = 393) as being associate degree level and bachelor's degree level, respectively. The mean age (n = 413) was 26.7 years with a range of 18 years to 55 years. Of the 420 participants that responded to the question related to prior military experience, 14.8% (n = 62) indicated they had prior military experience, and 85.2% (n = 358) indicated they had no military experience.

Demographic Comparisons Between Groups

Demographic variables for MVS in comparison to non-MVS are presented in Table 1. Because the survey did not require forced responses, the total number of participants (n) evaluated in each comparison varied. As expected, MVS were older with a mean age of 31.5 years compared to 25.8 years for those with no military experience. The results also confirmed that MVS were more likely to be

married (60%) and have dependent children (55%) compared to non-MVS (22.5% and 21.7%, respectively). Furthermore, MVS were more likely to be male (32.8%) and first-generation college students (35%) compared to non-MVS (8.4% and 26.5, respectively).

Quantitative Analysis

A participant selection of "does not apply" as a SPA-R1 survey question response was not included in the analysis. The rationale for this decision is that the remaining selections range from 2-6, "severely restricts" to "greatly supports" and therefore the comparison of how restrictive or supportive a particular variable is perceived was inclusive of those that believed the variable applied to their circumstance. The frequency of participants that selected "does not apply" is displayed in Table 2.

There are similarities as well as differences in the factors that impact nursing school retention between students with and without prior military service. There were no statistically significant differences between groups in 24 of the 27 variables. Both groups rated family crisis as the most restrictive factor towards nursing school retention with an overall mean of 3.26 (SD = 1.18). Three out of four of the top supportive factors (encouragement by friends within classes, encouragement by friends outside of school and recipient of financial aid and/or scholarships) were the same for both groups. A comparison of factors (mean scores) that influence retention between MVS and non-MVS is displayed in Table 2.

While there are similarities between MVS and non-MVS in terms of their perceptions of supportive and restrictive factors, the magnitude of the impact of these factors is different between groups. As seen in Table 3, using Mann-Whitney U analysis for comparisons, the following variables had statistically significant differences between groups: financial status, recipient of financial aid and/or scholarship, and membership in a nursing organization or club. Jeffreys (2012) defines financial status as the ability to meet academic and personal financial obligations. Military veteran students perceived their financial status as more supportive of retention than non-MVS. Using Mann-Whitney U analysis, the mean rank for MVS was 196.8 and the mean rank for non-MVS was 158.5 at $p = .005$, Mann-Whitney U = 5862, $z = -2.83$. For financial aid and/or scholarships, MVS perceived financial aid/scholarships as more supportive of retention than did non-MVS. The mean rank for MVS was 172.7 and the mean rank was 137.1 for non-MVS at $p = .003$, Mann-Whitney U = 4197.5, $z = -2.96$. Additionally, 41% of the MVS indicated that family financial support, or financial assistance provided by the family, did not apply to them compared to 14.2% of non-MVS. For membership in a nursing organization or club, MVS perceived membership in a nursing club or organization as less supportive of retention than did those with no military experience. The mean rank for MVS was 78.6 and the mean rank was 100.4 for non-MVS at $p = .029$, Mann-Whitney U = 1892, $z = -2.18$.

While not all nontraditional students are MVS, most MVS are nontraditional students. Thus, we believed it was valuable to examine key differences between traditional and nontraditional students. The guide for academic and student affairs officers (Hittepole, 2019) defines nontraditional students as age 25 and older. In comparing traditional students (24 and under) to nontraditional students (25 and older), several significant differences emerged. These differences include perceptions related to financial status, financial aid and scholarships, membership in nursing clubs or organizations, nursing student support services, college tutoring services, college counseling services, and family responsibilities. Traditional students viewed membership in a nursing club or organization, nursing student support services, college tutoring services, college counseling services, and family responsibilities as being more supportive of retention than did the nontraditional students. Nontraditional students viewed financial status and financial aid and scholarships as most supportive of retention. Statistically significant variables are displayed in Table 4.

Qualitative Analysis

The qualitative data were manually coded using descriptive, in vivo, and pattern coding methods to organize similar data into

Table 2
Mean Student Perception Appraisal Revised Scores

	Mean	SD	MVS Mean	Non-MVS Mean	MVS Selected Did Not Apply	Non-MVS Selected Did Not Apply
Encouragement by friends within classes	5.44 (n = 320)	0.79	5.34 (n = 53)	5.46 (n = 267)	n = 3 (5.4%)	n = 12 (4.3%)
Encouragement by friends outside of school	5.26 (n = 317)	0.93	5.31 (n = 51)	5.26 (n = 266)	n = 5 (8.9%)	n = 13 (4.7%)
Recipient of financial aid and/or Scholarships	5.19 (n = 285)	1.08	5.55 (n = 47)	5.12 (n = 238)	n = 9 (16.1%)	n = 41 (14.7%)
Nursing skills lab	5.11 (n = 315)	0.95	5.07 (n = 54)	5.12 (n = 261)	n = 2 (3.6%)	n = 18 (6.5%)
Family emotional support	5.11 (n = 327)	1.19	5.19 (n = 53)	5.09 (n = 274)	n = 3 (5.4%)	n = 4 (1.4%)
Academic performance	5.11 (n = 327)	1.00	5.19 (n = 53)	5.10 (n = 274)	n = 2 (3.6%)	n = 3 (1.1%)
Transportation arrangements	5.07 (n = 305)	1.09	5.25 (n = 52)	5.04 (n = 253)	n = 5 (8.8%)	n = 28 (10%)
Personal study skill	4.92 (n = 331)	1.12	5.00 (n = 55)	4.90 (n = 276)	n = 0 (0%)	n = 2 (0.7%)
Living arrangements	4.80 (n = 311)	1.22	4.92 (n = 50)	4.78 (n = 261)	n = 6 (10.7%)	n = 16 (5.8%)
Family financial support/assistance provided by family	4.76 (n = 273)	1.32	4.79 (n = 33)	4.75 (n = 230)	n = 23 (41%)	n = 38 (14.2%)
Personal study hours	4.73 (n = 334)	1.28	4.64 (n = 56)	4.75 (n = 278)	n = 0 (0%)	n = 3 (1.1%)
Faculty advisement and helpfulness	4.65 (n = 331)	1.13	4.58 (n = 57)	4.67 (n = 274)	n = 0 (0%)	n = 5 (1.8%)
Nursing student support services	4.59 (n = 260)	1.02	4.60 (n = 40)	4.59 (n = 220)	n = 16 (28.6%)	n = 58 (20.9%)
College computer lab service	4.59 (n = 219)	1.02	4.62 (n = 37)	4.59 (n = 182)	n = 19 (33.9%)	n = 96 (34.5%)
Nursing student peer mentoring and tutoring	4.57 (n = 254)	1.02	4.30 (n = 37)	4.62 (n = 217)	n = 19 (33.9%)	n = 63 (22.5%)
College library services	4.57 (n = 272)	1.08	4.45 (n = 47)	4.60 (n = 225)	n = 9 (16.1%)	n = 56 (19.2%)
College counseling services	4.51 (n = 224)	0.93	4.53 (n = 37)	4.50 (n = 187)	n = 19 (33.9%	n = 93 (33.2%)
Class schedule	4.50 (n = 334)	1.22	4.53 (n = 55)	4.49 (n = 279)	n = 1 (1.8%)	n = 1 (0.4%)
College tutoring service	4.46 (n = 220)	1.01	4.39 (n = 31)	4.48 (n = 189)	n = 25 (44.6%)	n = 90 (32.3%)
Nursing professional events	4.45 (n = 252)	0.98	4.38 (n = 47)	4.46 (n = 205)	n = 9 (16.1%)	n = 74 (26.5%)
Financial status/ability to meet financial obligations	4.42 (n = 329)	1.37	4.88 (n = 56)	4.32 (n = 273)	n = 1 (1.8%)	n = 7 (2.5%)
Membership in nursing club or organization	4.41 (n = 193)	0.89	4.13 (n = 30)	4.47 (n = 163)	n = 25 (45.5%)	n = 114 (41.2%)
Childcare arrangements	4.38 (n = 121)	1.37	4.48 (n = 33)	4.34 (n = 88)	n = 23 (41.1%)	n = 189 (68.2%)
Family responsibilities	3.91 (n = 301)	1.22	3.80 (n = 49)	3.93 (n = 252)	n = 7 (12.5%)	n = 23 (8.4%)
Hours of employment	3.75 (n = 242)	1.25	3.91 (n = 35)	3.72 (n = 207)	n = 21 (37.5%)	n = 74 (26.3%)
Employment responsibilities	3.73 (n = 235)	1.16	4.00 (n = 35)	3.68 (n = 200)	n = 21 (37.5%)	n = 80 (28.6%)
Family crisis	3.26 (n = 247)	1.18	3.35 (n = 34)	3.24 (n = 213)	n = 21 (38.2%)	n = 66 (23.7%)

Table 3
Significant Differences in Student Perception Appraisal Revised Scores by Military Status

	Mean Rank MVS (n)	Mean Rank No Military Experience (n)	Mann-Whitney U	Significance (2-Tailed)
Financial status/ability to meet financial obligations	196.8* (n = 56)	158.5 (n = 273)	5862	0.005
Recipient of financial aid and/or Scholarships	172.7* (n = 47)	137.1 (n = 238)	4197	0.003
Membership in nursing club or organization	78.6 (n = 30)	100.4*(n = 163)	1892	0.029

* Indicates group perceived variable as more supportive of retention.

categories, patterns, and themes (Saldana, 2013). For triangulation of data to promote trustworthiness of the findings, two members of the research team independently analyzed the data. After comparison of analysis, we identified 28 categories, 10 patterns, and three themes. The three themes that emerged as supportive or restrictive to successful retention in nursing programs were responsibilities and support systems, well-being and coping, and program support and caring. Similarities and differences between MVS and non-MVS as well as areas of agreement and divergence with quantitative data for data triangulation were examined for each theme.

Responsibilities and Support Systems

The first theme that emerged was how personal support systems were balanced with personal responsibilities. Supportive factors included patterns related to family support, peer support, and external resources. Supportive family and/or friends and external resources including financial support positively impacted academic success. Conversely, a lack of supportive family and/or friends, limited resources, and higher levels of personal responsibilities negatively impacted academic success. For example, family support alleviated stress for many participants regardless of military status. One participant described:

Knowing my spouse is there to help support our children and household helps relieve the anxiety and mom guilt I feel being away at school.

Family support included emotional support and help with household responsibilities and finances. Participants noted:

Family flexibility has allowed me to have more time to study and make it to lab on days my son is not in daycare.

They (family members) can help support me emotionally and financially, so I am able to work less.

Nursing students are like a big family, we help each other out as much as we can.

Participants who reported a lack of family support stated that it "causes stress and anxiety" and that family issues "have been stressful and distracting." For many, "balancing home and school was difficult." Participants shared that "outside responsibilities" stated that "childcare" and "work" created hardships they perceived as negatively affecting their success. Although MVS were more likely to cite "time" as a barrier to success, both groups reported competing demands equally with comments such as:

There are not enough hours in the day to juggle my family, work, and school obligations.

Work ultimately decreases the amount of time I can study and do assignments.

Participants in both groups identified Covid-19 as a complicating factor. One participant stated:

I had to homeschool my kids through most of my nursing program due to Covid restrictions.

Another noted:

Even before COVID, it was impossible to drop my daughter at daycare on [the University] main campus and make it to 8am classes. Now that their hours are shortened post-COVID, I have to use a nanny for pickup when I have afternoon classes. I also have to pay a nanny for more hours when I'm at clinical. We're paying the same amount total for daycare and receiving fewer hours of care, which is both a financial challenge and a time management challenge.

Some participants worried "about paying...bills" and "having enough...food." A key difference was students without military experience cited financial concerns as a barrier to academic success. The MVS were more likely to report finances as helpful to success. One MVS participant noted that scholarships:

Made it possible for me to leave my job so I could focus on (my) studies.

Another commented on the benefits of tuition assistance:

GI bill is paying my tuition and my housing...so I don't have to work and can focus on school.

Well-Being and Coping

A second theme that emerged was difficulty in coping with physical and mental health stressors and reliance on previously developed life management skills. Participants identified barriers to success related to their well-being such as illness, stress, depression, and anxiety. They also identified challenges in coping with stressors such as lack of time management skills, inadequate study habits and lack of organizational skills. Participants shared personal attributes such as drive, willpower and motivation as positive factors that impacted their success and ability to overcome barriers. Previous knowledge and life-skills helped them overcome barriers.

Students with Attention Deficit Hyperactivity Disorder (ADHD) "struggle(d) to focus" and "finish things on time." Mental health issues such as depression made "it hard to find the energy" for schoolwork. Stress and anxiety contributed to "doubt" and "poor confidence" and made "studying harder" and "school difficult." Participants also reported feeling "exhausted" from "poor sleep." We did not see a difference between reports of stress and anxiety between those with prior military experience and those without. Conversely, "a strong focus on mental health" supported academic success.

Table 4
Significant Differences in Student Perception Appraisal Revised (SPA-R1) Scores by Age

	Mean Rank <25 Years Old (n)	Mean Rank >25 Years Old (n)	Mann-Whitney U	Significance (2-Tailed)
Financial status/ability to meet financial obligations	151.3 (n = 161)	173.52* (n = 163)	11324.5	0.028
Recipient of Financial aid and/or scholarships	130.27 (n = 150)	152.30* (n = 130)	8215.5	0.013
Membership in a nursing club or organization	102.90* (n = 101)	88.26 (n = 90)	3848	0.043
Nursing student support services	137.39* (n = 135)	117.44 (n = 120)	6832.5	0.023
College tutoring services	118.57* (n = 122)	96.71 (n = 95)	4627	0.007
College counseling services	117.43* (n = 120)	102.19 (n = 100)	5168.5	0.054
Family responsibilities	162.60* (n = 146)	134.77 (n = 150)	8891	0.004

* Indicates group perceived variable as more supportive of retention.

Participants of both groups attributed academic success to personal attributes of "dedication," "determination," "discipline," and "hard work." They were motivated by "passion," "future goals," "necessity" and even "spite." Good "time management" and "study skills" as well as "prior academic experience" and "work experience" contributed to academic success. Whereas poor "time management," "procrastination," difficulty "prioritizing" and struggling to "find the best ways to study" negatively impacted academic success. Some also reported feeling "constantly tired" from chronic disease and that getting "sick" hindered academic success.

Program Support and Caring

The third theme that emerged was programmatic factors related to support, caring, and communication from faculty and advisors. "Availability of the professors" and the ability to "explain things... well" and make the "material fun to learn" was important to student success for both participant groups. It was also helpful for faculty to be "kind" and "willing to help." Both MVS and non-MVS appreciated faculty who "offered words of encouragement" and provided "constant support and engagement." Both groups felt that "a good professor makes a massive difference."

Conversely, participants in both groups reported that a "lack of support from... instructors," "faculty disorganization and lack of planning," and faculty that were "nonexistent" or "don't really care" negatively impacted student success. Academic success was further hampered by "nursing advisers not caring or being clear" and "forget (ing) to tell you information." Overwhelmingly, participants in both groups cited "miscommunication" in general as detrimental to success.

Participants noted "scheduling" was a barrier. As one participant noted,

The program seems very geared toward single students whose parents are paying for school and don't have other responsibilities. It does not support a work or family schedule well at all, and they often do not give us much advance warning for things that we are required to attend. It's very difficult to schedule doctor's appointments or childcare or work.

"Schedule changes" and a "lack of flexibility" negatively impacted success. Also, some participants identified that time management was affected by rigorous program requirements.

With nursing school, it constantly feels like you have so much coming at you so fast AND all at once. You don't possibly have adequate time to complete everything with the attention to detail I normally would like to devote to my studies.

Participants in both groups identified that Covid-19 worsened the scheduling challenges and required rapid adjustments to online learning environments. Many participants found the changes to be difficult. One participant reported, "virtual learning is so hard to do." Yet, some found advantages in the flexibility of using Zoom and Google Meet for class and peer meetings. "Being able to watch recorded lectures on Zoom on my own time" was helpful. Traditional student participants reported greater difficulty with changing to an online learning environment, citing "being online" as a barrier to success. One traditional student shared that "in person class kept me on track."

Discussion

This study aimed to identify factors that restrict or support retention in nursing programs across the US (United States) as perceived by MVS compared to non-MVS. The results of our study met the primary aim through quantitative and qualitative methods. Our findings showed that there are similarities and differences in the perceived factors that support or restrict retention in prelicensure nursing programs for both groups. Key differences were found in the areas of financial status, financial aid and/or scholarship, and involvement in nursing organizations or clubs. Similarities were found in the remaining areas.

As found in earlier studies (Cox, 2019; Patterson et al., 2019), the demographic characteristics of MVS in our sample were different than non-MVS. Participants with military backgrounds were more likely to be older, married, and have dependent children. Noting this difference led us to further examination of the differences between traditional and nontraditional students. Our study adds to the literature which indicates that the overall factors that support retention in nursing programs are different for traditional and nontraditional nursing students (Priode et al., 2020). Traditional students were more supported by membership in a nursing club or organization, nursing student support services, college tutoring services, college counseling services, and family responsibilities and older, nontraditional, students were more supported by their financial status and financial aid and or scholarships. These findings are consistent with previous findings indicating non-academic factors as most supportive of retention of nontraditional students (Priode et al., 2020). Future studies are recommended to determine if the factors that restrict or support nursing school retention are different for beginning level students versus more advanced senior level students.

The participants in the study were almost evenly split between those over 25 years old (46%) and those under 25 years old (54%). Nursing programs would do well to account for the differences in needs based on demographics whether it be age or military status. Our study adds to the body of knowledge that increased responsibilities of nontraditional students may be more restrictive of academic success (Cox, 2021). For example, in our study, the number of prior military service students with dependent children (55%) was more than double that of students with no prior service (21.7%). Qualitative data confirmed that nontraditional students, including MVS, in our sample found family responsibilities as a barrier to academic success and indicated family support as critical to alleviate the burden of family responsibilities. In addition to the workload of family responsibilities, the financial burden of additional dependents should be considered (Dyar, 2019).

Our quantitative data suggested that while some students found online distance classes difficult, others preferred some integration of distance learning as it offers more flexibility. In our study, traditional students more frequently found online learning difficult while nontraditional students were more likely to comment on the benefits of online coursework. This is consistent with a retrospective multisite study by Sikes et.al (2021) that indicated hybrid learning supported veteran student retention. Based on the results of this study, we recommend that consideration be given to increasing flexibility in nursing curriculum delivery methods and scheduling to account for the academic needs of the traditional versus nontraditional nursing students. A hybrid learning environment allows delivery of some content in a more flexible online environment while also retaining the traditional classroom for more complex content as well as development of psychomotor skills (Puksa & Janzen, 2020). We recommend incorporating technology-based modalities that support hybrid learning environments that can be customized to student needs. Examples may include online delivery of lectures as well as thoughtful integration of virtual simulations including augmented reality experiences and game-based learning such as the Safe Medication Virtual Learning Environment (Hawkins et al., 2020).

Both MVS and non-MVS in our study had a high percentage of being the first in their family to seek higher education (35% MVS and 26.5% non-MVS). First generation students may need added support services to be successful in nursing coursework (Bennett et al., 2021). The National League for Nursing (Mazinga, 2021) reported the national percentage of minorities in prelicensure nursing programs as American Indian (0.5%), Asian or Pacific Islander (4.7%), Hispanic

(11%), and Black/Non-Hispanic (11.2%). In our study, MVS participants had a higher percentage of minority status and those with no prior military service were lower than the national average, except for AAPI (Asian American Pacific Islander) of which we had no participants (see Table 1). Further, nearly a third (32.8%) of MVS were male compared to just 8.4% of non-MVS. In agreement with prior research (Dyar, 2019), recruitment of military students to nursing programs may contribute to the diversity of the future nursing workforce but nursing programs must also be prepared with academic support services to help more diverse students succeed (Bennett et al., 2021).

Our results add to the body of research indicating that nonacademic factors play a significant role in student retention. Priode et al. (2020) found family crisis to be a restrictive factor to retention in nursing programs and recommended cultivating collaborative relationships between students and their academic and financial aid advisors to help students navigate unanticipated family events. In our study, family crisis was rated by both MVS and non-MVS as the most restrictive factor to retention in nursing school. Qualitative data confirmed that family issues and obligations contribute to stress and anxiety that negatively affects academic success. Military veteran students have also previously identified financial challenges related to family support and childcare that were factors in academic progression (Cox, 2019; Shellenbarger & Decker, 2019). Future research should include interventional studies that explore innovative ways to support students. For example, nursing schools can develop partnerships to offer paid internships which may count towards clinical hours to streamline time and offer financial support. Also, nursing departments should lead discussions with university-based childcare to ensure availability for the extended hours nursing students need for clinicals.

Smith-Wacholz et al. (2019) and He et al. (2018) also found stress to be closely related to family issues and obligations and suggested intentional strategies to promote stress reduction, coping mechanisms, and resilience among nursing students. Implications of these findings are that nursing programs may not have the support structures in place to assist students, or that they may not be readily accessible. However, faculty can implement strategies and educational modules that enhance self-care and resilience throughout the curriculum. Planned activities and assignments to encourage social support and reflection enhances resilience (Thomas & Asselin, 2018). Students can use the REST (Relationships, Exercise, Soul, and Transformative Thinking) mnemonic to create holistic self-care plans (Rajamohan et al., 2020). We recently implemented educational content in our own curriculum to promote self-care and resilience. The anecdotal feedback has been overwhelmingly positive. Research is needed to further evaluate the impact. In addition to educating students, faculty should inform students of university resources, such as student health and counseling services. We recommend further research to examine barriers to identifying and accessing support services aimed at improving mental health, coping, and stress reduction.

In our study, non-MVS perceived encouragement from classmates as the most supportive retention factor. Military veteran students also considered encouragement from classmates to be a principal factor of success, rating it second among supportive factors but behind financial aid and scholarships, which was rated as the most supportive factor. Our qualitative data supported these findings. This is consistent with prior research reported by Priode et al. (2020) who found encouragement from fellow students as the most supportive factor for retention in nursing programs. Both military and nonmilitary students listed friends or peers as a factor that positively affected their success. To facilitate peer relationships among MVS in our program, we implemented monthly "mess halls" or brown bag lunch sessions that provided opportunities for informal conversations. This practice of offering time and space for developing peer relationships can be extended to all students.

Our study found that MVS participants perceived membership in a nursing club or organization as less supportive of retention than those with no military experience. Also, membership in a nursing club or organization among participants of this study was lower for MVS. Our qualitative results mirrored the quantitative findings. Although both MVS and non-MVS identified support from peers as important to their success, non-MVS were more likely than MVS to mention club membership, friends, and peer support as helpful. This finding may correlate to literature that prior military service students felt they did not fit in with peers (Prasad et al., 2020; Shellenbarger & Decker, 2019). Thus, MVS may need guidance to identify organizations on campus that more closely align with their experiences such as the Student Veterans of American or SALUTE, the Veterans National Honor Society. However, based on other results of this study, nursing students faced scheduling conflicts and an overall lack of time to engage with extracurricular activities beyond the nursing community. Proactive faculty and fellow student support is needed to explore opportunities for traditional nursing clubs such as the Student Nurses Association to adopt military friendly cultures. In addition to encouraging group involvement, we recommend cohorting MVS students within nursing programs to create an internal support system.

Our study contributes to the literature that financial aid is a factor in retention of nursing students (Cox, 2019; Gates, 2018; Hawkins et al., 2018; He et al., 2018). This adds credence to the call for public funding to support nursing education as a strategy to avert future nursing shortages. Financial support is particularly important to decreasing dropout rates in nontraditional students, minority students, first generation students and students from low-income families (Kamer & Ishitani, 2021). In addition to increasing financial aid funds for high-risk students, Kamer and Ishitani (2021) recommend workshops to inform students about financial aid eligibility, student loans and work-study opportunities.

Limitations

This study had several limitations. The non-probability sampling methods subject the study to sampling bias and participants who chose to complete the survey may not be representative of the full population. The online recruitment methods may have excluded potential participants who have limited online access. In addition, because the researchers did not have access to email addresses to invite all eligible participants and some representatives from Schools of Nursing declined to distribute the invitation to their students, the study is limited by exclusion bias. Recruitment invitations were sent primarily to current nursing students via email distribution or online forums visited by nursing students. This sampling method is subject to survivorship bias, potentially excluding participants no longer enrolled in nursing programs who may have valuable insight into the factors that support and restrict retention.

Participants did not have to respond to all items in the survey resulting in missing data that may reduce the representativeness of the sample. Finally, the sample sizes for comparison are unequal. Participants with prior military experience made up a small sample of 62 participants. Although this is expected as students with prior military experience only make up a small percentage of the total nursing student population, the small sample size may not be representative of the full sample. Because the samples were not evenly distributed, non-parametric statistics were used for analysis. Future studies with larger, more evenly distributed samples of military students are needed.

Conclusion

Our findings demonstrated that the factors that restrict or support nursing school retention have similarities and differences between students with and without prior military service. When comparing

nontraditional to traditional nursing students, the differences are more pronounced. Results of this study can be used to target strategies to support the academic success of nursing students in prelicensure programs, and specifically to support military veterans and nontraditional students. In their textbooks related to veterans in higher education, authors Coll and Weiss (2015) and Elliott et al. (2020) offer evidenced-based recommendations to increase faculty awareness of veteran student needs and to help create supportive learning environments for academic success. Nurse educators can use expert recommendations to proactively implement practices that address military student learner needs.

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Declaration of Competing Interest

The authors report no potential or actual conflict of interest related to this research.

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