VETWAYS

The Veteran Education to Workforce Affinity and Success Study

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DATA REPORT

Wright State University Student Military Service Members and Veterans: Phase One Research Findings from the Spring 2023 Veteran Education to Workforce Affinity and Success Study (VETWAYS)

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Summary

This report contains findings from a research study focused on undergraduate student military service members and veterans (SSM/Vs) at Wright State University (WSU). The Veteran Education to Workforce Affinity and Success Study (VETWAYS), a National Science Foundation-supported project (#2201495) based at the University of Wisconsin-Madison, focuses on three objectives:

(1) To better understand how SSM/V social support networks influence SSM/V college-to-career pathways,

(2) To better understand how SSM/V social support and college-to-workforce experiences compare to those of non-military undergraduate students, and

(3) To provide data-supported insights to student service professionals and other stakeholders.

During Phase One of this study, reported here, online surveys (n=75) and interviews (n=11) of SSM/Vs were administered at WSU between February and April 2023. At the same time, online surveys were also gathered from WSU non-military students (n=99) to provide comparative data points. From October 2022 through April 2023, additional SSM/V (n=498) and non-military student (n=918) surveys and SSM/V interviews (n=63) were administered at Middle Tennessee State University, the University of Maryland, the University of New Mexico, and the University of Texas at San Antonio, giving further geographic and institutional context to WSU findings.

Key findings from WSU, and recommendations from these results, are the following:

Sample Demographics

- The WSU SSM/V survey sample is 62.7% male; is comprised of 68.0% students identifying as White and 32.0% students identifying as Students of Color; has a mean age of 30.3; is 45.3% first generation; and is 29.3% impaired.
- The SSM/V sample is significantly more often first generation and older than the sample of WSU non-military students who participated in the study.

Military Experiences

- Survey data show that 53.3% of WSU SSM/V respondents identified as discharged/retired veterans, 41.3% were reserve- or national guard-service members, and 6.7% were on active duty when they took the online survey.
- Combat exposure among SSM/Vs has been cited as a predictor of difficulty in transitions to college life. Twenty-nine percent of the WSU survey sample reported receiving combat pay—defined as income earned while stationed in a designated combat zone—at some point during their military service.

Transitions into College

- Controlling for age and other factors, WSU SSM/Vs had significantly more years between high school graduation and college enrollment (9.1 years on average) compared with non-military students (5.0 years).
- WSU SSM/V interviewees spoke about several cultural contrasts that defined their transitions from the military into the university, including camaraderie, structure versus freedom, responsibility and experience, and professionalism and respect.

University Life

- Studies suggest students' first-year college grades associate with their persistence to a degree. Here, the majority of WSU SSM/V survey participants reported receiving mostly A's (3.75 GPA or higher) or A's and B's during their first year at college.
- Higher levels of financial stress have been shown to associate not only with lower grades, but also with more career- and economic-orientated goals in college. Findings indicate that WSU SSM/Vs had significantly fewer financial concerns than WSU students without military experience.
- On average, WSU SSM/Vs reported a moderate sense of belonging on campus (2.97 on a 5-point scale) while WSU non-military students reported a strong sense of belonging (3.49). Results show that even after controlling for age, first generation status, and a number of other student attributes, WSU SSM/Vs felt a significantly lower level of campus belonging than their non-military student peers.

Career Plans

- When asked about the importance of several different considerations in their career planning, SSM/Vs said work/life balance was of primary importance followed by income potential and the availability of jobs. WSU SSM/Vs, however, scored job availability significantly lower than WSU non-military students. SSM/Vs said their career's connection to their military occupation was the least important of all factors listed.
- On a scale from 1 to 5, WSU SSM/Vs averaged a 3.88 work volition score, suggesting a strong sense of control over their future job choices and ability to do the work they want to do despite challenges.

Veteran Services Engagement

- Among SSM/Vs across all five institutions, more often interacting with certifying officials and veteran coordinators, as well as more often participating in veteran services events or programs, visiting the veteran service office, and hanging out in the veteran lounge area, significantly associates with higher feelings of campus belonging.
- SSM/Vs who more often interact with certifying officials or visit the campus veteran service office have higher levels of institutional confidence and satisfaction.
- More often interacting with campus veteran coordinators marginally associates with higher work volition among SSM/Vs.
- SSM/V interviewees spoke about several themes when discussing veteran services on campus, including process fidelity, moral support, and community building.

Social Support Networks

- Research indicates that strong social support networks are linked to improved academic experiences for SSM/Vs. Survey data show that WSU SSM/Vs on average talked to 4.24 people about important personal and academic/career matters.
- WSU SSM/Vs had smaller personal matters networks, smaller combined networks, more veteran/service member ties, and a marginally higher proportion of contacts who they said "had their back" than WSU non-military student participants.

Connecting Student Attributes to Important Outcomes

- SSM/Vs with larger social support networks, comprised of more university educators (including faculty and staff), have a greater sense of campus belonging, a greater sense of belonging in their college major, and more confidence in and satisfaction with their universities.
- SSM/Vs who engaged more often with their campus veteran services had significantly larger social networks; they were also more likely to have fellow veterans/service members, college educators, and college students in their networks.

Insights and Recommendations

1. **Establish university connection with newly arriving SSM/Vs**
   Transitions into the university are a persistent challenge for SSM/Vs. We suggest educators reach out early to incoming students to build strong connections between SSM/Vs and the university and veteran services.
2. **Focus on dependable, professional, and authentic SSM/V services**
   SSM/Vs need informed and trustworthy support on numerous administrative processes as they attend college. As they help students with these processes, it is important for educators to offer encouragement, understanding, and a sense of dependability.
3. **Accentuate SSM/V academic- and career-related drive and success**
   Universities should capitalize on the unique assets of SSM/Vs. They can do this by reframing SSM/V support and service through asset-oriented language as well as by developing educational opportunities in which non-veteran students, staff, and faculty can learn from SSM/Vs.
4. **Build on the unique value and diversity of SSM/V social support networks**
   Coordinating opportunities for SSM/Vs to socially engage on and off campus can foster belonging, increased confidence, and academic motivation.
5. **Increase budgetary support for campus veteran services center and staff**
   Results show that SSM/V engagement with veteran services associates strongly with beneficial outcomes. Carrying out these recommendations requires substantial and consistent budgetary support for campus veteran service staff and their centers.

Introduction and Background

Over the last two decades, student military service members/veterans (SSM/Vs)—defined as undergraduate students who are on active U.S. military duty, in the Reserves or National Guard, or are retired/discharged military veterans (Barry et al., 2014)—have been one of the fastest growing groups of nontraditional students in U.S. colleges and universities (e.g., Student Veterans of America [SVA], 2020). This development will continue to both strengthen and diversify universities and the workforce in the United States. Aside from their advanced technical, problem-solving, and teamwork skills, SSM/Vs nationwide are proportionally older, more often African American, and more often first-generation students from low-income backgrounds than traditional college students (Borsari et al., 2017; Cate et al., 2017; SVA, 2020).

SSM/V enrollment expansion, however, comes with challenges. Transitions between military and civilian life, service-related impairments, alienation from students and staff, and the complicated administration associated with state and federal education benefits all present SSM/Vs with difficulties that many postsecondary educators still do not fully understand (e.g., Hodges et al., 2022).

Greater levels of SSM/V success are achievable. In particular, recent studies suggest that SSM/V experiences improve with *strong social support networks*—groups of relationships that provide assistance, advice, and camaraderie (e.g., Benbow & Lee, 2022; Eakman et al., 2019). Little research has focused on such networks or how they could be a valuable leverage point for improving SSM/V outcomes. Despite calls for research that will follow these students over time to establish what factors in college predict success, and to compare their academic trajectories to non-military affiliated students, few studies have used a comprehensive, multi-phased approach to trace SSM/V student social support and academic persistence.

Recent studies suggest that student service member/veteran (SSM/V) college experiences improve with *strong social support networks*—relationships that provide students with assistance, advice, and camaraderie.

Purpose

The **Veteran Education to Workforce Affinity and Success Study** (VETWAYS) is a National Science Foundation-funded research project focusing on these issues. Using three rounds of online surveys and interviews that will follow a cohort of SSM/Vs and non-military students through several universities across the country, the project explores the role college support and social networks plays in helping military-affiliated students finish college and enter gratifying careers. Our mission is threefold:

(1) Better understand SSM/V social support networks as well as how these networks influence students as they move through college into careers,

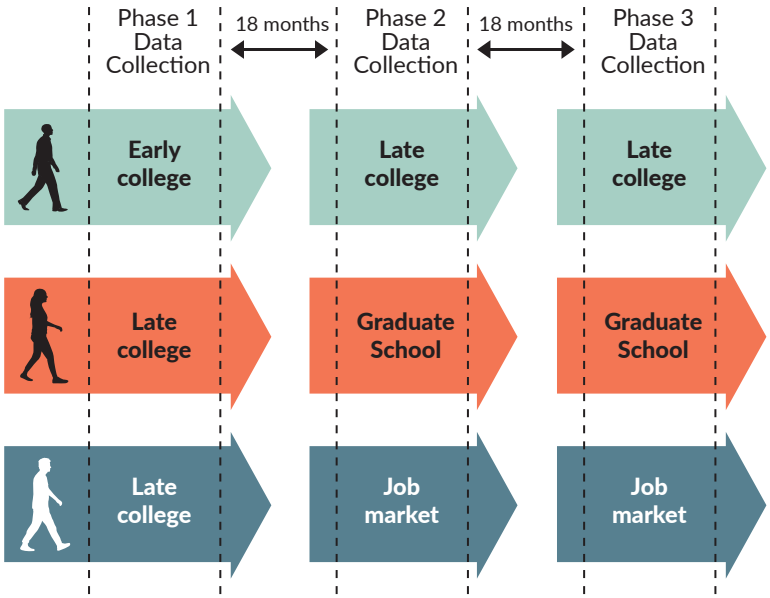
(2) Better understand how SSM/V social support and college-to-workforce experiences compare to those of non-military undergraduate students across institutions and geographic locations, and

(3) Provide data-supported insights for student service professionals, administrators, employers, and policymakers that strive to improve SSM/V academic experiences and workforce outcomes.

Methods

To meet these objectives, VETWAYS is conducting a mixed-methods study of SSM/Vs in five 4-year, public universities chosen for their demographic and geographic diversity: Middle Tennessee State University, the University of Maryland-College Park, the University of New Mexico, the University of Texas at San Antonio, and Wright State University (Table 1).

Figure 1. **Three focal career pathways**



The diagram shows three vertically stacked "pathways" represented by a figure of a person at far left and three arrows pointing end-to-end from left to right. The first arrow of each person's pathway is intersected by one dotted, vertical column reading "Phase 1 Data Collection," the second arrow of each person's pathway is intersected by one dotted, vertical column reading "Phase 2 Data Collection," and the third arrow of each person's pathway is intersected by one dotted, vertical column reading "Phase 3 Data Collection." Arrows between the first and second columns and the second and third columns read "18 months." The first arrow of the first person's pathway reads "Early college," the second arrow reads "Late college," and the third reads "Late college." The first arrow of the second person's pathway reads "Late college," the second arrow reads "Graduate school," and the third reads "Graduate school." The first arrow of the third person's pathway reads "Late college," the second arrow reads "Job market," and the third reads "Job market."

Through three study phases, the project follows undergraduate SSM/Vs and non-military students in these institutions as they navigate different education-to-career pathways (Figure 1). During Phase One, reported here, the study team surveyed 573 SSM/Vs and 1,017 non-military undergraduate students across all five universities. Online survey questions were designed to record respondent demographics, educational experiences, academic and career pathways, and social support network characteristics. The team also conducted semi-structured interviews over Zoom with a subset of 74 SSM/V volunteers in science, technology, engineering, and mathematics (STEM) majors from these institutions. Interview questions were

meant to explore student perspectives on career pathways and support networks during one-hour sessions with each student. Phase One surveys and interviews were all conducted during the 2022-2023 academic year. Phase Two of this study, which will follow up with these participants, will take place in fall 2024. A detailed description of our research methods is provided in Appendix A.

During Phase One of this study, VETWAYS surveyed 573 SSM/Vs and 1,017 non-military undergraduate students across Middle Tennessee State University, the University of Maryland, the University of New Mexico, the University of Texas at San Antonio, and Wright State University.

In this initial report, we use descriptive and associational statistical methods as well as inductive coding to provide quantitative and qualitative findings from WSU SSM/V and non-military student survey responses (n=174) and SSM/V interview responses (n=11). Please note that this study's survey sample is made up of volunteers and represents only 27.6% of the reported SSM/V undergraduate population at WSU. While this response rate is low, data are still useful to better understand SSM/V characteristics and behaviors that are usually not available in reports based on admissions, registrar, or financial aid information. Additionally, we use analysis of survey data from each institution as well as our whole five-institution sample to provide more powerful correlational results on relationships between various student attributes and outcomes.

Table 1. **Overview of the institution sample**

Institution	City / State	Carnegie Classification	Undergrad Enrollment	SOC %	Est. SSM/Vs / % Total	Survey N: SSM/Vs / Non-military	Interview N (SSM/Vs)
Middle Tennessee State University (MTSU)	Murfreesboro, Tennessee	Doctoral University: High Research Activity	18,603	34%	558 / 3.0%	106 / 172	12
University of Maryland-College Park (UMD)	College Park, Maryland	Doctoral University: Very High Research Activity	30,922	55%	811 / 2.6%	42 / 293	15
University of New Mexico (UNM)	Albuquerque, New Mexico	Doctoral University: Very High Research Activity	15,793	70%	430 / 2.7%	67 / 130	6

Institution	City / State	Carnegie Classification	Undergrad Enrollment	SOC %	Est. SSM/Vs / % Total	Survey N: SSM/Vs / Non-military	Interview N (SSM/Vs)
University of Texas at San Antonio (UTSA)	San Antonio, Texas	Doctoral University: Very High Research Activity	29,801	79%	946 / 3.2%	283 / 323	30
Wright State University (WSU)	Dayton, Ohio	Doctoral University: High Research Activity	7,477	27%	272 / 3.6%	75 / 99	11

Note: Data from National Center for Education Statistics (2023). Integrated Postsecondary Education Data System. United States Department of Education, https://nces.ed.gov/ipeds/find-your-college.

To provide broader context for findings, many descriptive WSU SSM/V data are reported side-by-side with non-military student data. When there are statistically significant differences between findings, we note these contrasts using asterisks.[1]

Survey and interview findings and insights are presented below according to nine thematic categories: Sample Demographics, Military Experience, Transitions into College, University Life, Career Plans, Veteran Services Engagement, Social Support Networks, Connecting Student Attributes to Important Outcomes, and Recommendations.

Findings

Sample Demographics

Surveys

Seventy-five undergraduate SSM/Vs at WSU participated in the online survey while 99 undergraduate students without military experience participated. Sample statistics and comparisons are presented in Table 2.

1 Addition signs and asterisks represent the probability that the computed difference between the measures is due to a random occurrence: + equals a 10% chance the difference is random, * equals a 5% chance the difference is random, ** equals a 1% chance, and *** equals a 0.1% chance. In statistical association tests, while an addition sign or an asterisk represents a "significant" difference between two groups' measures, more asterisks indicate a stronger probability that the difference is not due to chance.

Table 2. **Survey sample of WSU SSM/Vs (n=75) and non-military students (n=99)**

Measure	SSM/Vs		Non-Military Students	
	N	%	N	%
Gender***				
Female	26	34.7	58	58.6
Male	47	62.7	32	32.3
Nonbinary	2	2.7	9	9.1
Race/Ethnicity[2]				
American Indian or Alaska Native	0	0.0	2	2.0
Asian or Asian American	5	6.7	7	7.1
Black or African American	12	16.0	20	20.4
Hispanic or Latino	7	9.3	4	4.1
Native Hawaiian or Pacific Islander	0	0.0	1	1.0
White or Caucasian	54	72.0	76	77.6
White Students	51	68.0	68	69.4
Students of Color	24	32.0	30	30.6
Undergraduate Major				
Arts and Humanities**	6	8.0	24	24.2
Biological and Life Science	6	8.0	3	3.0
Business	2	2.7	4	4.0
Education*	2	2.7	11	11.1
Engineering	13	17.3	9	9.1
Finance	6	8.0	3	3.0
Health	8	10.7	16	16.2
Math and Computer Science	8	10.7	6	6.1
Physical Science	1	1.3	0	0.0
Social Science	16	21.3	13	13.1

2 "Students of Color" include students who identified as mixed race or as American Indian or Alaska Native, Asian or Asian American, Black or African American, Hispanic or Latino, or Native Hawaiian or Pacific Islander. "White Students" include students who only identified as White or Caucasian.

Measure	SSM/Vs		Non-Military Students	
	N	%	N	%
Other	7	9.3	9	9.1
Undeclared	0	0.0	1	1.0
First Generation Students[3]**	34	45.3	26	26.3
Disability Status				
Cognitive Impairment	15	20.0	18	18.4
Mobility Impairment	11	14.7	8	8.1
Sensory Impairment	2	2.7	1	1.0
Impaired Students	22	29.3	23	23.2
Mean Age*	30.3 (SD[4]=8.1)		27.3 (SD = 7.9)	

Note. The distributions of several variables are significantly different between WSU SSM/Vs and non-military students, including gender, undergraduate major, first generation status, and age.

Notable findings from the WSU survey sample:

- The WSU SSM/V survey sample is 62.7% male; is comprised of 68.0% students identifying as White and 32.0% students identifying as Students of Color; has a mean age of 30.3; is 45.3% first generation; and is 29.3% impaired.
- Asterisks by a WSU figure show that there is a statistically significant difference between an attribute among SSM/Vs and non-military students in the sample. Here, the WSU SSM/V sample has significantly more men as well as a significantly different distribution of undergraduate majors, with significantly fewer arts and humanities and education majors than non-military student participants. The SSM/V sample is also significantly more often first-generation and significantly older than the sample of WSU non-military students who participated in the study.

Compared with their WSU non-military peers, there are significantly more men in the SSM/V survey sample. The SSM/V sample is also more often first generation and older than the non-military sample.

3 "First Generation" students are students reporting that their parents/guardians have not obtained an associate's level college degree or above.

4 Standard deviation (SD) is a measure of the amount of variation within a set of values. A low SD indicates that the values tend to be clustered closer to their mean. A high SD indicates that the values are spread out more widely.

Interviews

Eleven WSU SSM/Vs were interviewed for this study, all volunteer STEM majors who completed the online survey. Interview sample statistics are presented in Table 3.

Table 3. **WSU SSM/V interview sample (n=11)**

Measure	N	%
Gender		
Female	4	36.4
Male	5	45.5
Nonbinary	2	9.1
Race/Ethnicity		
American Indian or Alaska Native	0	0
Asian or Asian American	1	9.1
Black or African American	2	18.2
Hispanic or Latino	2	18.2
Native Hawaiian or Pacific Islander	0	0
White or Caucasian	7	63.6
White Students	6	54.5
Students of Color	5	45.5
Undergraduate Major		
Biological and Life Science	0	0
Engineering	3	27.3
Health	1	9.1
Math and Computer Science	0	0
Physical Science	1	9.1
Social Science	6	54.5
Service Status		
Discharged or Retired Veteran	5	45.5
In Reserves or National Guard	5	45.5
On Active Duty	1	9.1
First Generation Students	5	45.5

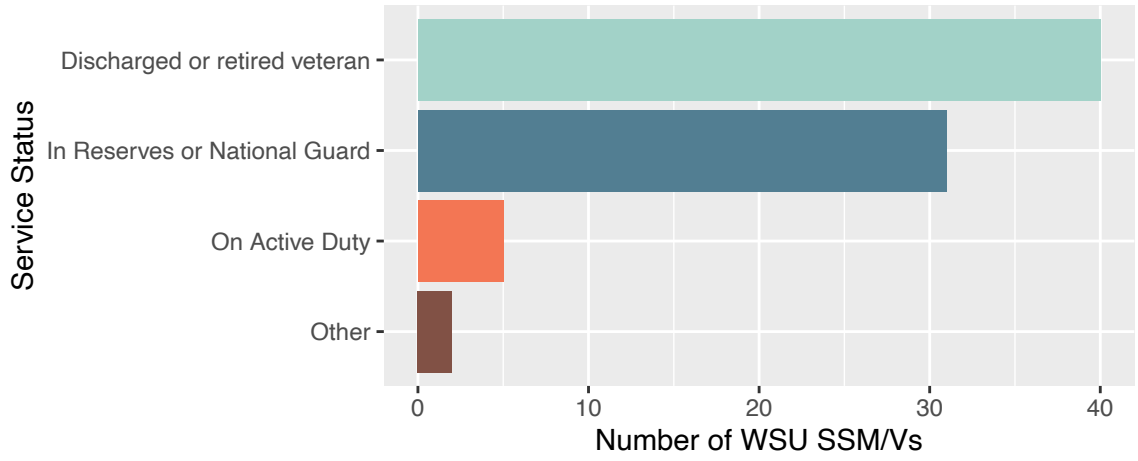
Measure	N	%
Disability Status		
Cognitive Impairment	2	18.2
Mobility Impairment	3	27.3
Sensory Impairment	0	0
Impaired Students	5	45.5
Mean Age	28.2 (SD=6.32)	

Military Experiences

SSM/V military experiences influence their time in college in important ways, from student comfort in class to involvement in the university veteran community (e.g., Barry et al., 2014; Sullivan et al., 2021). To better understand SSM/Vs' military experiences, the VETWAYS online survey gathered data on student service attributes, including students' military status, branch, and combat exposure.

Survey data show that 53.3% of WSU SSM/V respondents identified as discharged/retired veterans, 41.3% were reserve- or national guard-service members, and 6.7% were on active duty when they took the online survey (Figure 2). Table 4 shows the military branches in which students served/serve.

Figure 2. **Survey-reported service status of WSU SSM/Vs (n=75)**



The figure shows a bar graph describing four military service statuses reported by SSM/Vs.

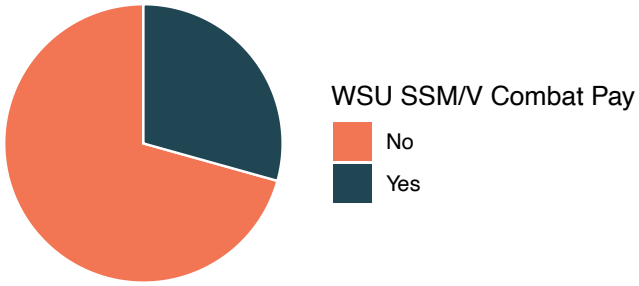
- *40 reported they were discharged or retired veterans.*
- *31 reported they were in the reserves or national guard.*
- *5 reported they were on active duty.*
- *2 reported they were in other service statuses.*

Table 4. **Survey-reported military branches of WSU SSM/Vs**

Military Branch	N	%
Air Force	30	40.0
Army	33	44.0
Coast Guard	0	0.0
Marine Corps	5	6.7
Navy	7	9.3
Space Force	0	0.0

Combat exposure among SSM/Vs has been cited as a predictor of difficulty in transitions to college life (Bodrog et al., 2018). Twenty-nine percent of the WSU survey sample reported receiving combat pay—defined as income earned while stationed in a designated combat zone—at some point during their military service (Figure 3).

Figure 3. Survey-reported combat pay of WSU SSM/Vs



The figure shows a pie chart describing the percentage of SSM/Vs who received and did not receive combat pay during their time in military service.

- *29.3% of the graph represents those who reported receiving combat pay.*
- *70.7% represents those who reported not receiving combat pay.*

Transitions into College

About 70% of U.S. college-bound high school graduates enroll in college a few months after graduation (NCES, 2020). Veterans, however, often join the military soon after high school, returning to their studies in phases as they serve or after their service is complete. While many reservists and guard members go to college right from high school, their university enrollment can often be delayed or disrupted by training or activations.

In Table 5, we see that members of the WSU SSM/V survey sample have on average 6.7 years of military service, with an average of 9.1 years between high school graduation and college enrollment. WSU non-military students, who were chosen because of their demographic similarities to SSM/Vs, had on average 5.0 years between high school graduation and college enrollment. When controlling for gender, race/ethnicity, age, enrollment level, first generation status, marriage status, and first year college GPA, WSU SSM/Vs had marginally more years between high school graduation and college enrollment compared with non-military students.

***Table 5*. Survey-reported years of military service and to college enrollment of WSU SSM/Vs and non-military students (n=174)**

	SSM/Vs		Non-Military Students	
	Mean Score	N	Mean Score	N
Years of military service	6.7 (SD = 5.9)	75	-	-
Years between high school graduation and starting at WSU+	9.1 (SD = 8.5)	75	5.0 (SD= 6.7)	99

Note: SSM/V years between high school graduation and college are marginally significantly different from non-military survey respondents.

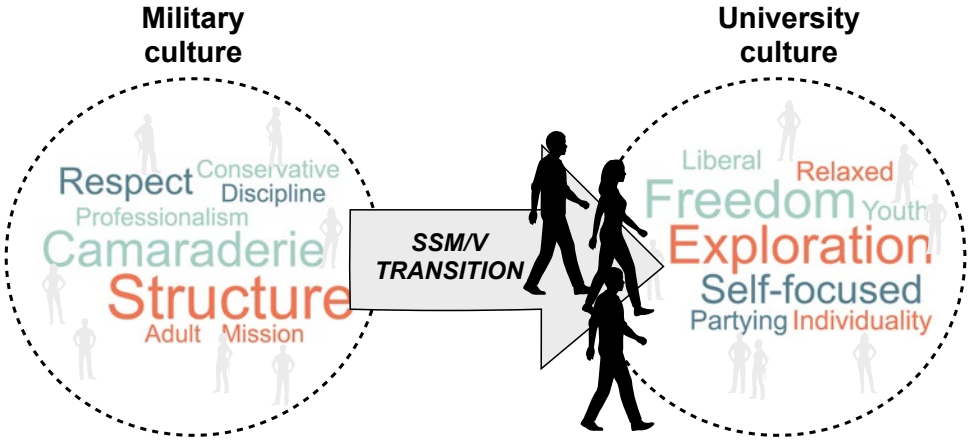
Military to University Cultural Changes

As we see, military-affiliated students often have longer periods away from civilian studies that can make pathways into the university—and the classroom—more challenging. The cultural nature of these transitions, further, have also been shown to be a major factor in SSM/Vs' adjustment to college (e.g., McAndrew et al., 2019).

To better understand cultural transitions from the military into the university, SSM/V interviewees were asked to speak to specific parts of life that were different between the university and the military and how they influenced their adjustment to university.

One set of results from our inductive analysis of interviews are displayed in Figure 4, a diagram that represents the process SSM/Vs go through when transitioning from the military to the university. This figure includes "word clouds" on the aspects of military and university culture interviewees identified as important as they transitioned. The more SSM/Vs who mentioned a facet of culture, the larger it appears in each diagram.

Figure 4. **Interviewee-reported word clouds of university and military cultures**



The diagram shows two spheres. The sphere on the left is labeled "Military culture" and the sphere on the right is labeled "University culture." Between the spheres are three figures walking from the Military culture sphere to the University culture sphere over an arrow, pointing right, that is labeled "SSM/V TRANSITION." Within the Military culture sphere are terms of varying sizes: "Structure" is the largest, "Camaraderie" is the second largest, "Respect" is the third largest, and "Mission," "Adult," "Professionalism," "Conservative," and "Discipline" are smaller and similar in size. The University culture sphere also has terms of varying sizes: "Freedom" and "Exploration" are the largest, "Self-focused" is the second largest, and "Partying," "Individuality," "Liberal," "Relaxed," and "Youth" are smaller and similar in size.

Table 6 lists and defines six themes researchers identified in how WSU SSM/Vs talk about military and college cultures in interviews.

Table 6. **Cultural contrast themes reported by WSU SSM/Vs (n=11)**

Theme	N	Description
Camaraderie	5	Contrasts between the military cultural value of camaraderie--characterized by a sense of responsibility toward ones' comrades and experiences of mutual support, struggle, teamwork, and commitment to a common mission--and the culture and values of higher education, which are often described as self-focused and overly centered on individual learning, goals, and projects.
Structure versus freedom	5	Cultural contrasts between a highly structured military culture, which places a premium on uniformity and consistency of performance, and a university culture, which values personal freedom, exploration, and unique expressions of individuality.
Professionalism and respect	4	Contrasts between the military's culture of respect and professionalism and the casual behavior associated with the peer culture on campus.

Theme	N	Description
Responsibility and experience	3	Cultural contrasts between military (and adult) values of responsibility, experience, work, discipline, seriousness, accountability, resilience, perseverance, and adult-level competency and university (youthful) values and behavior described as immature, naive, sheltered, irresponsible, and lacking in basic adult-level skills and knowledge.
Military style	1	Cultural contrasts between military styles of demeanor, dress, ornamentation, and communication—habituated during military service—and the style of college peers. These styles are often displayed by SSM/Vs and can cause them to be visibly distinguished on campus.
Core values	1	Cultural contrasts between core institutional values and ethics in the military and higher education; differences in political opinion between military students and non-military students and faculty.

Note: Themes are listed from top to bottom by number of interviewees mentioning each theme.

Five SSM/Vs at WSU described a sharp contrast between the military value of ***camaraderie***—characterized by a sense of responsibility toward ones' comrades and experiences of mutual support, struggle, teamwork, and commitment to a common mission—and the culture and values of higher education, often considered overly focused on the pursuit of individual goals. One SSM/V at WSU described this key cultural difference in terms of both practical and emotional support.

"When I was in the military, if I was struggling…or I just needed some emotional support or anything, you always had that. I feel like as a university student, that's not really always there."
-WSU SSM/V

> *I feel like the biggest difference is the camaraderie. When I was in the military, if I was struggling with anything, if I didn't understand a subject when I was studying or I just needed some emotional support or anything, you always had that, even if you didn't kind of know the person. I feel like as a university student, that's not really always there. Sometimes you can go to instructors or other fellow students, but that's not a guarantee.*

SSM/V interviewees consider the cultural contrasts between military and university life to be obvious, dramatic, and numerous—and they describe experiencing these differences as a common and everyday feature of their lives on campus. For instance, SSM/Vs are usually older than their peers, and they also often have experiences with high stakes work in the military. Drawing on such military ***responsibility and experience***, another important theme, several of the SSM/Vs to whom we spoke contrasted their own values of work, discipline, and accountability with their more traditionally aged peers' carefree culture of youth, relaxation, and partying. As one SSM/V at WSU described their student peers, "[The university is] a place where a lot of young people are saying a lot of things because they don't know much better. But they're learning." Another SSM/V at WSU described how this cultural difference impacted their ability to make connections with peers:

> *In the military we learn attention to detail and to meet certain timeframes and just a lot of different stuff that we, as a prior military member, I guess my outlook on things is just different from my peers. At first it put a constraint on me actually reaching out to peers that I was in school with, because a lot of people form study groups and stuff like that. But I more so kind of stay to myself, because we're just on different, I don't know, it was just different.*

The theme ***structure versus freedom*** was also important in WSU interviews. Five SSM/Vs highlighted this theme, describing the military as highly "organized," "focused," "rigid," and with a clear "chain of command." Directions and rules, and the high value placed on uniformity and consistency of performance, were key military cultural characteristics. The culture of the university, on the other hand, was described in terms of how it valued personal freedom, exploration, and unique expressions of individuality. Some interviewees further described the culture of the university as "chaotic" or "random," in contrast with the highly delineated schedules and expectations of the military. One SSM/V at WSU, for instance, explained the differences in terms of self- versus micro-management.

> *They tell you what to do and all that, that is the culture in the military. But when it come to school, you pretty much have your plan ... whatever works for you, you just had to heed the deadline pretty much. But with the Army, it's micromanaged.*

Another WSU SSM/V discussed how military structure gave one direction on how to communicate with others, something that was missing in the university.

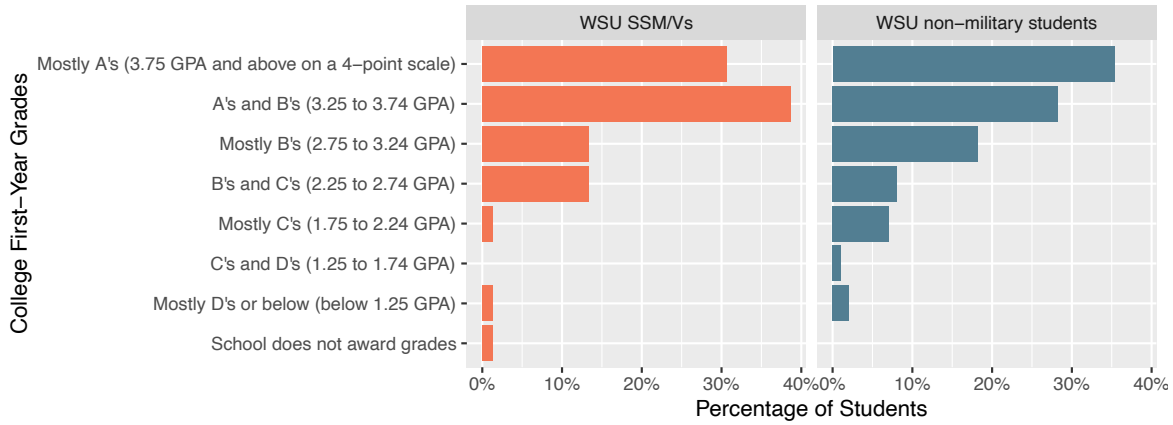
> *The military's very structured and it's really easy to understand. There are rules for everything. There is no mistaking what the rules are. But that's also the worst part. Because when you leave, you don't know how to talk to people because we don't rank each other, there's no hierarchy. Everyone's just people so that's really hard to deal with.*

University Life

Other survey and interview questions asked students about their university experiences, including their first-year GPA in college, transferring, commuting, financial concerns, and feelings of campus belonging. Each of these metrics has important implications for students' academic path through college.

First-year GPA. Studies suggest students' first-year college grades associate with their persistence to a degree (e.g., Crisp et al., 2009). Here, the majority of WSU SSM/V survey participants reported receiving mostly A's (3.75 GPA or higher) or A's and B's during their first full year in college, while non-military students reported similar grades. The distribution of WSU SSM/V first-year GPAs in college is not significantly different from that of their non-military peers (Figure 5).

***Figure 5*. Survey-reported first-year college grades of WSU SSM/Vs and non-military students**



The figure shows two horizontal bar graphs describing the distribution of first-year college grades among SSM/Vs and non-military students.

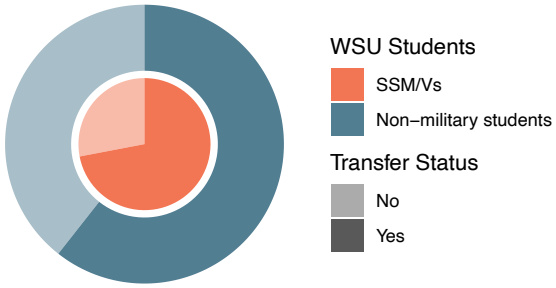
- *31.1% of SSM/Vs and 35.4% of non-military students reported receiving mostly A's (or a 3.75 GPA and above on a 4-point scale).*
- *39.2% of SSM/Vs and 28.3% of non-military students reported receiving mostly A's and B's (3.25 to 3.74 GPA)*
- *13.5% of SSM/Vs and 18.2% of non-military students reported receiving mostly B's…*
- *13.5% of SSM/Vs and 8.1% of non-military students reported receiving mostly B's and C's…*
- *1.4% of SSM/Vs and 8.1% of non-military students reported receiving mostly C's and D's…*
- *1.4% of SSM/Vs and 2.0% of non-military students reported receiving mostly D's and below…*

Transfer status. Research suggests that transferring into a new 4-year university can present significant challenges. Students often experience culture shock and stigma with the switch (e.g., Santos Laanan, 2007), and data show that transferring links both with a longer time-to-degree and a lower likelihood of graduation (e.g., Hu et al., 2018).

Our online survey asked students whether they had transferred into their current university and, if so, the type of institution from which they had transferred. Figure 6a shows that 72.0% of WSU SSM/Vs and 60.6% of non-military students had transferred into WSU. Results show that when age and other important factors are equaled out, those with military experience were not significantly more likely to transfer into their current university than those without military experience.

Figure 6b shows the type of institution from which students transferred. Here, results indicate that SSM/Vs were significantly more likely to transfer into WSU from 4-year universities and significantly less likely to transfer into WSU from 2-year colleges than their non-military peers.

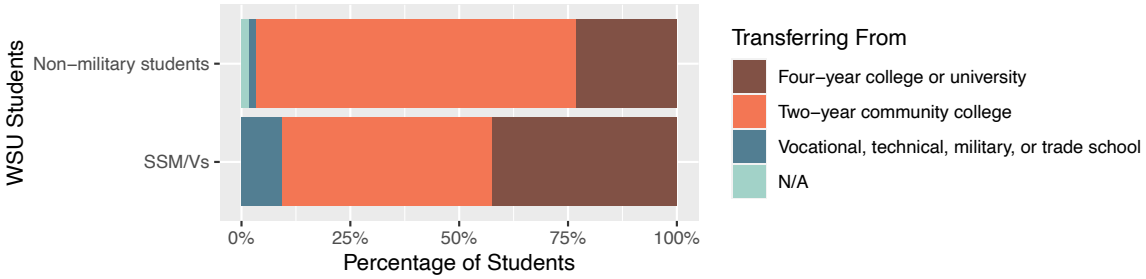
***Figure 6a.* Transfer status among WSU SSM/Vs and non-military students**



The figure displays a double-layer donut chart describing the transfer status of SSM/Vs and non-military students.

- *72.0% of SSM/Vs and 60.6% of non-military students transferred into WSU from another institution.*

***Figure 6b.* Institutions from which WSU SSM/Vs and non-military students transferred**



The figure displays a stacked bar graph describing the different types of institutions that SSM/Vs and non-military students transferred from into WSU.

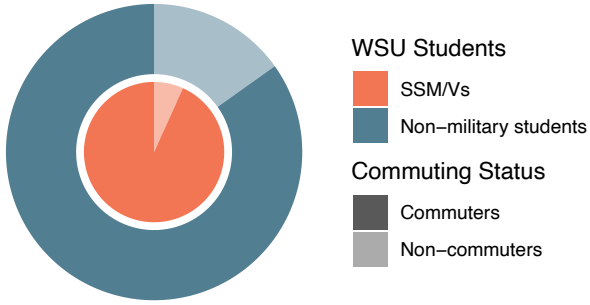
- *48.1% of SSM/Vs and 74.6% of non-military students transferred to WSU from two-year community colleges.*
- *42.6% of SSM/Vs and 23.7% of non-military students transferred to WSU from four-year colleges.*
- *9.3% of SSM/Vs and 1.7% of non-military students transferred to WSU from vocational, military, technical or trade schools.*

Commuting. Students who commute to campus (many of whom are transfer students) also face academic obstacles. Because they are more apt to be older, work full time, and have a family to support, they often have myriad other responsibilities competing with coursework for their time and energy. They also cannot spend as much time on campus, which research suggests helps academically and socially integrate students into the life of their institution and increase one's chances of graduating (e.g., Tinto, 1987; also see Davidson & Wilson, 2013).

Using distance to campus to delineate between commuters and non-commuters (e.g., Kuh et al., 2001), Figure 7 displays comparative commuting rates between WSU SSM/Vs and non-military students.[5] Here, though a higher proportion of WSU SSM/V participants reported commuting, there is no statistically significant difference between the two groups.

5 Like National Survey of Student Engagement researchers (Kuh et al., 2001), we define commuters as students who do not live close enough to campus to walk there. For measurement purposes in this report, we define walking distance as one mile or less.

Figure 7. **Commuting status among WSU SSM/Vs and non-military students**



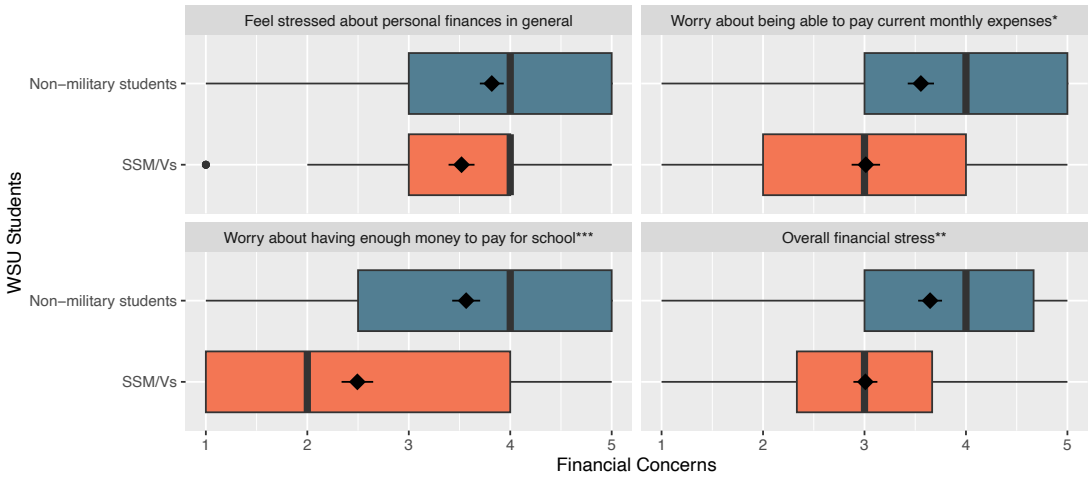
The figure displays a double-layer donut chart describing the commuting status of SSM/Vs and non-military students.

- *93.2% of SSM/Vs and 84.8% of non-military students commute more than one mile to the WSU campus.*

Financial Concerns. Stress over personal finances during college can influence student experiences in multiple ways. Higher levels of financial stress have not only been shown to associate with lower GPAs, but also to motivate students to more highly prioritize career- and economic-orientated goals in college (Baker, 2019; Baker & Montalto, 2019).

Figure 8 displays comparative results from a three-question scale asking students about their stress over finances (Baker, 2019). Because of the prevalence of GI educational benefits among SSM/Vs, here we see that WSU SSM/Vs were significantly less likely to worry about (1) paying their monthly expenses and (2) having enough money to pay for school than students without military experience. Overall, findings indicate that WSU SSM/Vs had significantly fewer financial concerns than those without military experience.

Figure 8. **Financial concerns of WSU SSM/Vs**



The figure displays four horizontal boxplots describing and comparing the distributions of three financial stress items and one overall financial stress score among SSM/Vs and non-military students. Stress scores are from 1 to 5 at an interval of 1.

The first boxplot describes the scores of students feeling stressed about personal finances in general.

- *SSM/Vs reported scores from 1 to 5, with 3.00 as the lower quartile, 3.52 as the mean, 4.00 as the median, and 4.00 as the upper quartile.*
- *Non-military students reported scores from 1 to 5, with 3.00 as the lower quartile, 3.82 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*

The second boxplot describes the scores of students worrying about being able to pay their current monthly expenses.

- *SSM/Vs reported scores from 1 to 5, with 2.00 as the lower quartile, 3.01 as the mean, 3.00 as the median, and 4.00 as the upper quartile.*
- *Non-military students reported scores from 1 to 5, with 3.00 as the lower quartile, 3.56 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*

The third boxplot describes the scores of students worrying about having enough money to pay for school.

- *SSM/Vs reported scores from 1 to 5, with 1.00 as the lower quartile, 2.49 as the mean, 2.00 as the median, and 4.00 as the upper quartile.*
- *Non-military students also reported scores from 1 to 5, with 2.50 as the lower quartile, 3.57 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*

The fourth boxplot describes the scores of students' overall financial stress level.

- *SSM/Vs reported scores from 1.00 to 5.00, with 2.33 as the lower quartile, 3.01 as the mean, 3.00 as the median, and 3.67 as the upper quartile.*
- *Non-military students also reported scores from 1.00 to 5.00, with 3.00 as the lower quartile, 3.65 as the mean, 4.00 as the median, and 4.67 as the upper quartile.*

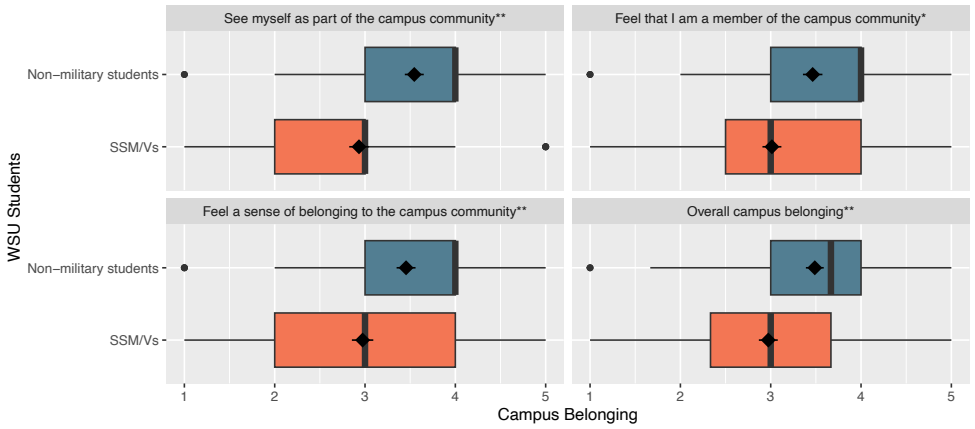
Note: Black diamonds indicate the means and bolded black vertical lines indicate the medians.

Feelings of campus belonging. It is well established that a student's sense of campus belonging—the feeling that they see themselves as a member of their campus community—is important to college success (Strayhorn, 2018). Recent research indicates that traditional, non-military undergraduate students feel a greater sense of belonging than SSM/Vs (Barry et al., 2021), though this research has yet to be tested among other survey samples. Here, we used a standard three-question scale (Hurtado & Carter, 1997) to measure a sense of belonging among WSU SSM/Vs and compare their feelings to those of WSU non-military students.

On average, WSU SSM/Vs reported a moderate sense of belonging on campus (2.97 on a 5-point scale) while WSU non-military students reported a stronger sense of belonging (3.49). Results show that WSU military students were significantly less likely to see themselves as part of the campus community, feel that they were members of the campus community, and feel a sense of belonging to the campus community (Figure 9). Overall, even after controlling for age, first generation status, and a number of other student attributes, findings indicate that WSU SSM/Vs felt a significantly lower level of campus belonging than their non-military student peers.

Results show that even with age and other important factors controlled, SSM/Vs are significantly less likely to feel a sense of belonging to the WSU campus community than non-military students.

***Figure 9*. Survey-reported SSM/V and non-military student feelings of campus belonging in WSU**



The figure displays four horizontal boxplots describing and comparing the distributions of three campus belonging items and one overall campus belonging score among SSM/Vs and non-military students. Belonging scores are from 1 to 5 at an interval of 1.

The first boxplot scores whether students see themselves as part of the campus community:
- *SSM/Vs reported scores from 1 to 5, with 2.00 as the lower quartile, 2.93 as the mean, 3.00 as the median, and 3.00 as the upper quartile.*
- *Non-military students reported scores from 1 to 5, with 3.00 as the lower quartile, 3.55 as the mean, 4.00 as the median, and 4.00 as the upper quartile.*

The second boxplot scores whether students see themselves as members of the campus community:
- *SSM/Vs reported scores from 1 to 5, with 2.50 as the lower quartile, 3.01 as the mean, 3.00 as the median, and 4.00 as the upper quartile.*
- *Non-military students reported scores from 1 to 5, with 3.00 as the lower quartile, 3.46 as the mean, 4.00 as the median, and 4.00 as the upper quartile.*

The third boxplot scores whether students feel they belong to the campus community:
- *SSM/Vs reported scores from 1 to 5, with 2.00 as the lower quartile, 2.97 as the mean, 3.00 as the median, and 4.00 as the upper quartile.*
- *Non-military students also reported scores from 1 to 5, with 3.00 as the lower quartile, 3.45 as the mean, 4.00 as the median, and 4.00 as the upper quartile.*

The fourth boxplot describes the scores of students' overall campus belonging level.
- *SSM/Vs reported scores from 1.00 to 5.00, with 2.33 as the lower quartile, 2.97 as the mean, 3.00 as the median, and 3.67 as the upper quartile.*
- *Non-military students also reported scores from 1.00 to 5.00, with 3.00 as the lower quartile, 3.49 as the mean, 3.67 as the median, and 4.00 as the upper quartile.*

In interviews, we asked SSM/Vs to explain what aspects of their college experiences influenced their sense of belonging to their campus community as well as their academic major.[6] WSU students brought up several factors, displayed in Table 7.

Table 7. **Interview-reported factors influencing campus belonging for WSU SSM/Vs**

Theme	N	Description
Demographic factors	7	Various demographic factors that impacted SSM/V experiences of belonging or exclusion from campus and particular majors, such as the perceived presence or absence of students with like-identities SSM/Vs, older students, first-generation students, racially diverse students, and male or female students.
Institutional welcome and engagement	7	Institutional, departmental, classroom, or service-directed efforts to welcome and engage SSM/Vs that increase SSM/Vs' sense of belonging and campus membership
Social recognition	3	Authentic empathy, concern, and support that can enhance SSM/Vs' sense of belonging, including expressions of common interest or experience, goal-focused discussions, or shared personalities among students and educators in particular majors, organizations, or interest-groups.
Cultural othering	1	Perceived cultural differences between SSM/Vs and peers, educators, or others in the academic community that can constrain SSM/V sense of belonging on campus or in particular majors. These cultural differences are described in more detail in the *Military to University Cultural Changes* section of this report above.
Goal-oriented approach to college involvement	1	SSM/V goal-oriented approach to college and engagement—involving a disciplined focus on classroom attendance and participation, studying, and progressing toward academic and career goals—that limits extra-curricular engagements not directly advancing those goals; approach often means forgoing on-campus social activities, club or organization membership, and "fun."
Responsibilities, schedules, and commutes	1	Competing work and family responsibilities and scheduling challenges that limit campus engagement and feelings of belonging in the university; living off-campus, or at an extensive commuting distance from campus, constrains SSM/V feelings of belonging.

Note: Themes are listed from top to bottom by number of interviewees mentioning each theme.

6 See Benbow & Lee (2022) for campus belonging-related results from a survey and interview study of Wisconsin SSM/Vs in science, technology, engineering, mathematics, and medical (STEMM) majors.

Seven SSM/Vs described ***demographic factors*** that decreased their sense of campus belonging, including feelings that there were not very many other older students or fellow SSM/Vs on campus at WSU. Additional factors influencing these WSU students' feelings of campus belonging included a ***goal-oriented approach to college involvement*** which often excluded non-academic forms of campus engagement; conflicts and/or a lack of time for campus engagement due to work and family ***responsibilities, schedules, and commutes;*** and a perception of ***cultural othering*** on campus that made one WSU SSM/V feel alienated on account of cultural differences between himself and younger classmates. This feeling came through even in online class forums, he said.

> *With the discussion boards in my class, those kids, well, I don't call them kids, but the people that I'm in class with, are way younger than me. And I know if we were actually on campus, I probably wouldn't feel like I belong because they would probably feel like I'm so older. Because in one of my classes I was the only one with kids, the only one who had experienced life…and we were introducing ourselves, they were talking about just getting their license or they were just young.*

Important factors that enhanced feelings of belonging included institutional, departmental, classroom, and service-directed efforts to ***welcome and engage*** SSM/Vs—including, importantly, through WSU's Veteran and Military Center (VMC)—as well as experiences of ***social recognition*** provided by veteran coordinators, caring faculty, and like-minded peers. One SSM/V said he fit in, as he put it, "where I am." He continued,

"I'm 10, 12 years older than everybody else that I'm going to class with. It always just feels awkward. But being able to start going to the Veteran and Military Center events, and I want to say finding the other older students, helps." -WSU SSM/V

> *My biggest groups are the military individuals. It's the ROTC cadets or it's the Veteran Military Center. I personally can't think of any non-military affiliated students I have a group or contact regularly. But within the organizations that I am in, I would say I do fit in.*

Another SSM/V told us he, too, felt the large age gap between himself and other traditional students at WSU. His involvement with the VMC, however, provided a more like-minded community on campus.

> *I'm 10, 12 years older than everybody else that I'm going to class with. It always just feels awkward. But being able to start going to the VMC events, and I want to say finding the other older students, [helps].*

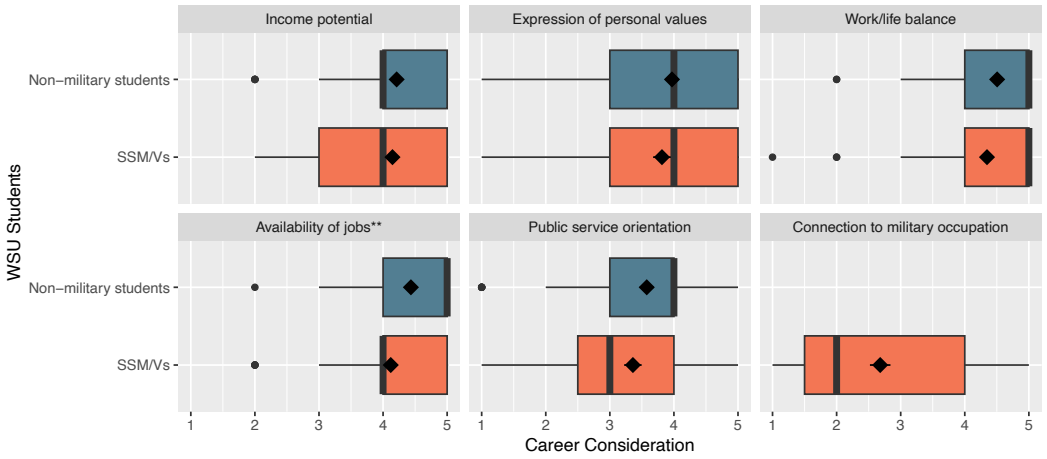
Interviews also showed, though, that institutional units and dedicated educators only have so much influence, particularly when students are unable to engage because of off-campus pressures or outlooks that come with age and military experience. Indeed, as students from across the interview sample explained, often all campus educators can do is authentically communicate their availability and concern, check in with SSM/Vs periodically, and leave the rest to their students.

Career Plans

VETWAYS is designed in part to understand SSM/V career trajectories, as well as how these trajectories are influenced by social and academic experiences in college. Questions on the online survey asked students to report on several aspects of their career plans.

Importance of Career Considerations. To understand how significant, if at all, certain factors were to students as they decided on their future careers, a survey question asked, "When thinking about your career path after college, how important to you are the following considerations?" Students were asked to indicate how important these five considerations were on a scale from 1 (Not at all important) to 5 (Very important). Additionally, SSM/V survey respondents were asked the importance of a career's "connection to their military occupation." Figure 10 displays resulting answers to these questions.

***Figure 10*. Survey-reported career considerations of WSU SSM/Vs and non-military students**



The figure displays six horizontal boxplots describing and comparing the distributions of five career consideration items among SSM/Vs and non-military students and one career consideration item for SSM/Vs. Scores are from 1 to 5 at an interval of 1.

The first boxplot describes scores for how important income potential was to SSM/Vs' and non-military students' career considerations:

- *SSM/Vs reported scores from 2 to 5, with 3.00 as the lower quartile, 4.15 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*
- *Non-military students reported scores from 2 to 5, with 4.00 as the lower quartile, 4.21 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*

The second boxplot describes scores for how important the expression of personal values was to SSM/Vs' and non-military students' career considerations:

- *SSM/Vs reported scores from 1 to 5, with 3.00 as the lower quartile, 3.81 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*
- *Non-military students reported scores from 1 to 5, with 3.00 as the lower quartile, 3.97 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*

The third boxplot describes scores for how important work/life balance was to SSM/Vs' and non-military students' career considerations:

- *SSM/Vs reported scores from 1 to 5, with 4.00 as the lower quartile, 4.35 as the mean, 5.00 as the median, and 5.00 as the upper quartile.*
- *Non-military students also reported scores from 2 to 5, with 4.00 as the lower quartile, 4.51 as the mean, 5.00 as the median, and 5.00 as the upper quartile.*

The fourth boxplot describes scores for how important the availability of jobs was to SSM/Vs' and non-military students' career considerations:

- *SSM/Vs reported scores from 2 to 5, with 4.00 as the lower quartile, 4.12 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*
- *Non-military students also reported scores from 2 to 5, with 4.00 as the lower quartile, 4.43 as the mean, 5.00 as the median, and 5.00 as the upper quartile.*

The fifth boxplot describes scores for how important a public service orientation was to SSM/Vs' and non-military students' career considerations:

- *SSM/Vs reported scores from 1 to 5, with 2.50 as the lower quartile, 3.36 as the mean, 3.00 as the median, and 4.00 as the upper quartile.*
- *Non-military students also reported scores from 1 to 5, with 3.00 as the lower quartile, 3.58 as the mean, 4.00 as the median, and 4.00 as the upper quartile.*

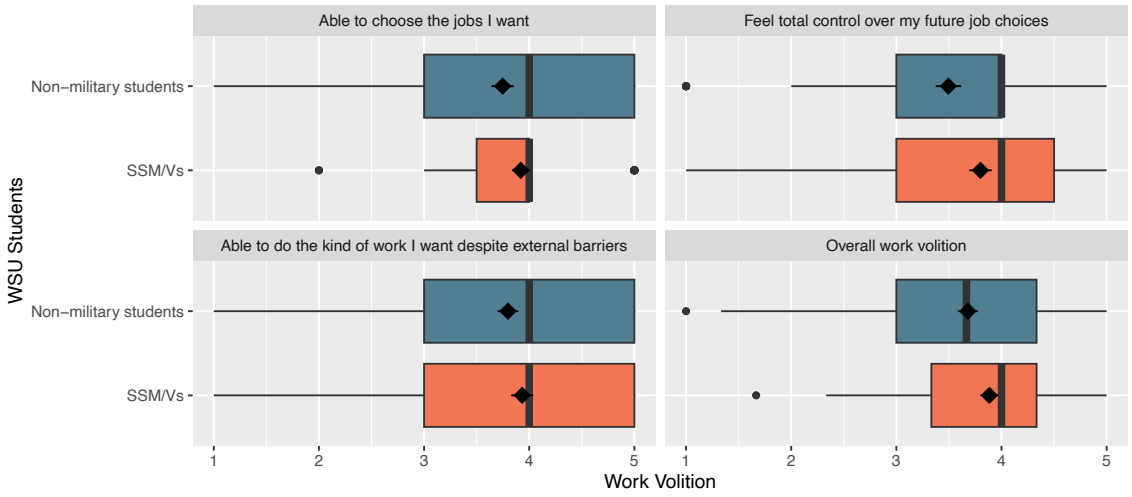
The sixth boxplot describes scores for how important a connection to their military occupation was to SSM/Vs' career considerations:

- *SSM/Vs reported scores from 1 to 5, with 1.50 as the lower quartile, 2.68 as the mean, 2.00 as the median, and 4.00 as the upper quartile.*

Work Volition. Research has found that student and employee confidence that they control their own career decisions and success—or "work volition"—is important to career confidence, adaptability, and job satisfaction (Duffy et al., 2012). With this in mind, we included in the survey an established three question scale meant to get a better sense of students' work volition.

Work volition findings for respondents from WSU are displayed in Figure 11.

Figure 11. **Work volition among WSU SSM/Vs and non-military students**



The figure displays four horizontal boxplots describing and comparing the distributions of three work volition items and one overall work volition score among SSM/Vs and non-military students. Work volition scores are from 1 to 5 at an interval of 1.

The first boxplot scores whether students feel they will be able to choose the jobs they want:

- *SSM/Vs reported scores from 2 to 5, with 3.50 as the lower quartile, 3.92 as the mean, 4.00 as the median, and 4.00 as the upper quartile.*
- *Non-military students reported scores from 1 to 5, with 3.00 as the lower quartile, 3.75 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*

The second boxplot scores whether students feel total control over their future job choices:

- *SSM/Vs reported scores from 1 to 5, with 3.00 as the lower quartile, 3.80 as the mean, 4.00 as the median, and 4.50 as the upper quartile.*
- *Non-military students reported scores from 1 to 5, with 3.00 as the lower quartile, 3.49 as the mean, 4.00 as the median, and 4.00 as the upper quartile.*

The third boxplot scores whether students feel they will be able to do the kind of work they want despite barriers:

- *SSM/Vs reported scores from 1 to 5, with 3.00 as the lower quartile, 3.93 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*
- *Non-military students also reported scores from 1 to 5, with 3.00 as the lower quartile, 3.80 as the mean, 4.00 as the median, and 5.00 as the upper quartile.*

The fourth boxplot describes the scores of students' overall work volition level.

- *SSM/Vs reported scores from 1.67 to 5.00, with 3.33 as the lower quartile, 3.88 as the mean, 4.00 as the median, and 4.33 as the upper quartile.*
- *Non-military students also reported scores from 1.00 to 5.00, with 3.00 as the lower quartile, 3.68 as the mean, 3.67 as the median, and 4.33 as the upper quartile.*

Notable career plan findings include:

- When asked about the importance of several different career considerations on a 1 to 5-point scale, WSU SSM/Vs said work/life balance was of primary importance (4.35), followed by income potential (4.15), the availability of jobs (4.12), expression of personal values (3.81), and public service orientation (3.36). SSM/Vs said their career's connection to their military occupation was least important (2.68) (Figure 10). WSU SSM/Vs scored job availability significantly lower than WSU non-military students.
- On a scale from 1 to 5, WSU SSM/Vs averaged a 3.88 work volition score, suggesting a strong sense of control over their future job choices and ability to do the work they want to do despite challenges. Non-military students indicated a somewhat lower but still solid work volition score average of 3.68. There is no statistically significant difference between WSU military and non-military students on this score.

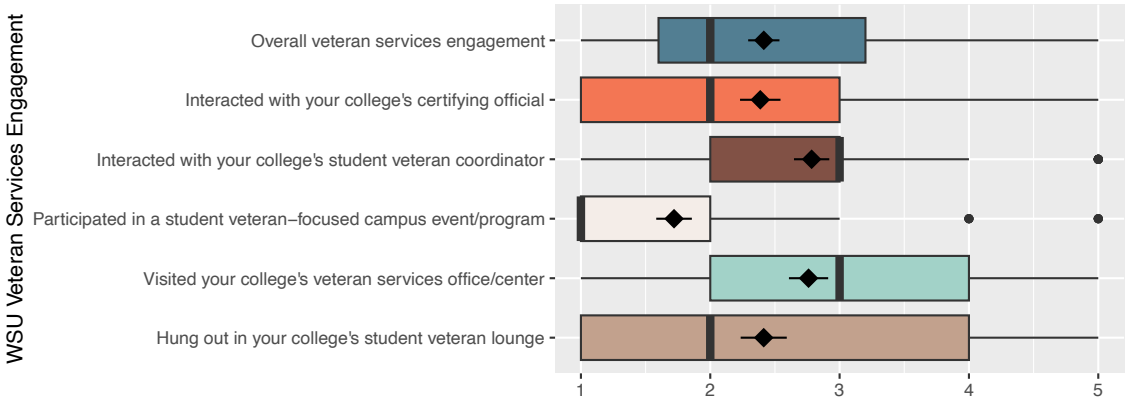
Veteran Services Engagement

University student veteran and service-member service staff are an important part of the SSM/V college experience. Most importantly, because SSM/Vs typically receive GI benefits to attend college, every campus has at least one university educator—called a "certifying official"—who helps SSM/Vs apply for and receive funding through state- and federal veteran affairs departments.

Institutions that have SSM/V-specific services beyond certification offer varying levels of student support. Some universities, including all those involved in this study, have dedicated veteran resource centers focused on SSM/V services. Others have fulltime veteran service educators tasked with providing SSM/Vs campus guidance, including helping those who are unexpectedly deployed, advising student veteran organizations, and coordinating social activities and military-oriented events (e.g., Kurzynski, 2014).

To provide insights on SSM/V campus service use at our partner institutions, we added questions to our survey asking SSM/Vs how often they engaged with different aspects of veteran services shown to benefit students (Hodges et al., 2022) on a scale from 1 (Never) to 5 (Very often). Each university in the study provided students these options. Figure 12 displays WSU student responses.

Figure 12. **Veteran services engagement among WSU SSM/Vs**



The figure displays six horizontal boxplots describing the distributions of SSM/Vs overall veteran service engagement level as well as engagement with five different facets of university veteran services. Engagement scores are from 1 (never) to 5 (very often) at an interval of 1.

The first boxplot describes "overall veteran services engagement."

- *SSM/Vs reported scores from 1.00 to 5.00, with 1.60 as the lower quartile, 2.41 as the mean, 2.00 as the median, and 3.20 as the upper quartile.*

The second boxplot describes "interacted with your college's certifying official."

- *SSM/Vs reported scores from 1 to 5, with 1.00 as the lower quartile, 2.39 as the mean, 2.00 as the median, and 3.00 as the upper quartile.*

The third boxplot describes "interacted with your college's student veteran coordinator."

- *SSM/Vs reported scores from 1 to 5, with 2.00 as the lower quartile, 2.78 as the mean, 3.00 as the median, and 3.00 as the upper quartile.*

The fourth boxplot describes "participated in a student veteran-focused campus event/program."

- *SSM/Vs reported scores from 1 to 5, with 1.00 as the lower quartile, 1.72 as the mean, 1.00 as the median, and 2.00 as the upper quartile.*

The fifth boxplot describes "visiting your college's veteran services office/center."

- *SSM/Vs reported scores from 1 to 5, with 2.00 as the lower quartile, 2.76 as the mean, 3.00 as the median, and 4.00 as the upper quartile.*

The sixth boxplot describes "hung out in your college's student veteran lounge."

- *SSM/Vs reported scores from 1 to 5, with 1.00 as the lower quartile, 2.41 as the mean, 2.00 as the median, and 4.00 as the upper quartile.*

We also asked WSU SSM/V interviewees to talk about what kind of veteran services engagement was influential. WSU students brought up six prominent themes, displayed in Table 8.

***Table 8*. Veteran services engagement themes reported by WSU SSM/Vs**

Theme	N	Description
Moral support	5	Interactions that communicate veteran services staff understand SSM/V experiences, will have their back during difficult moments, and can be trusted—represented by staff availability, authenticity, encouragement, advocacy, and concern that is consistent and reliable
Process fidelity	5	Informed, efficient, and dependable support—focused on multiple, complex bureaucratic processes SSM/Vs need to attend university—including enrollment management, military credit transfer, deployment assistance, and, most importantly, GI education benefit certification
Veteran/service member spaces	5	Veteran and service member lounges and/or study rooms offering safe, familiar, comfortable, and military-friendly spaces for SSM/Vs on campus where they can unwind, get information, study, and connect with others with whom they can relate
Indifference	4	Disinterest in SSM/V campus community based on educational perspective (e.g., college is just a job), community or family involvement off campus, and/or inconvenience of participating in events
Community building	3	Coordination of social events recognizing and bringing together SSM/Vs on- and off-campus to connect, particularly by encouraging military student and educator fellowship, supporting SSM/V organizations and activities, and working in the university and local community to foster increased understanding of SSM/V culture and experiences
Guided orientation and navigation	1	Veteran services as a hub for on- and off-campus guidance that offers SSM/Vs a foothold on campus, orientation to university procedures, academic and career assistance and resources, educational and professional networking, and clarity on the information with which SSM/Vs are inundated in university

Note: Themes are listed from top to bottom by number of interviewees mentioning each theme.

Findings show that 5 WSU SSM/Vs spoke to the theme ***process fidelity*** when discussing veteran services on campus. This refers to the importance of office staff's experience, know-how, and reliability with the numerous and complex SSM/V-specific administrative processes students are required to complete in college. Such processes include facilitating military training credit transfers, assisting during mid-semester activations or deployments, and, perhaps most importantly, applying for and certifying GI education benefits.

GI benefit processing is essential for most SSM/Vs attending university. This is because the release of

government benefit checks, which allow SSM/Vs to pay for personal and school-related expenses, often depends on the accuracy and timeliness of veteran services' certification. SSM/V interviewees told us that staff proficiency in this regard, as well as streamlined instructions, cut and dry online platforms, and friendly but persistent reminders to students, not only made college life much less hectic, but also endeared them to campus veteran staff. "They helped me sign up for my GI bill because I didn't know how to do that," a WSU SSM/V told us. "They were really helpful with that because they actually knew what they were talking about and helped me out."

Concrete bureaucratic help was valuable, but 5 WSU SSM/Vs also told us that the ***moral support*** they received from veteran office staff—often as they were seeking process assistance—helped acclimate them to the university and their role as college students. This was especially true for those who had just arrived in college. As students reported, their administrative experiences outside of the university, often centered in large, byzantine organizations (e.g., Veteran Affairs), were typically circuitous and illogical. When SSM/Vs entered the university, inundated as they often were with excessive information and demands, they worried about going through similarly Kafkaesque experiences in a new place with few people they could trust.

"in case you're struggling with something, you can come to the VMC and just get in a nice environment with other members who are similar to you…it's more than the education benefit processing." -WSU SSM/V

Moral support, indeed, links closely to the *social recognition* and *institutional welcome and engagement* themes in our belonging analysis above. In the university environment, SSM/Vs told us that veteran services staff were particularly effective when they met students where they were with authentic, honest interactions; provided students with important SSM/V-specific information and opportunities without expectations; and treated students not with empty reverence, as civilians often do, but as experienced, independent adults. Such moral support invited trust, respect, and a greater sense from SSM/Vs that they were in the right place. In essence, SSM/Vs benefited when veteran support staff proved themselves to be straightforward, understanding, and personally supportive. In describing his university's veteran services staff, one WSU SSM/V explained it this way:

> *They keep me well-informed. If I don't have my form filled out every semester, they're like, "Hey, just a friendly reminder." It's not like, "Hey, get it done or we're totally not ever going to do it." It's like, "Hey, get this done now so that way you can get your benefits or else the benefits take a while." Then, they inform you about everything else that changes in the college that may affect us. They're welcoming.*

Three WSU SSM/Vs reported on the importance of what we refer to as ***community building*** activities, or the work WSU veteran services offices undertake to foster SSM/V community by coordinating events that bring SSM/Vs together, assisting military-oriented organizations, and educating people locally about SSM/V experiences. SSM/Vs speaking to community building at WSU told us that the organized activities they had taken part in—including, for example, sporting events or get togethers over food and drink—allowed them to get their mind off the stress of school. Activities also gave them access a wider network of like-minded students and staff offering information, advice, people to hang out with, and, more generally, emotional support. Interactions with other students with similar experiences, especially, could offer the

kind of fellowship and camaraderie that many SSM/Vs often report is missing in university. As one WSU SSM/V said,

> *There's these social outlets out there. So in case you're struggling with something, you can come and just get in a nice environment of other members who are similar to you. So maybe you meet somebody you can start talking to, maybe share a story or two or something like that…it's more than the education benefit processing. I think it's a social environment that's being worked on to aid students in the new environment that they're in.*

Not all SSM/Vs partook of veteran/service member community opportunities, however. Some students we interviewed said they were unable to attend SSM/V events because of scheduling conflicts with class, work, family, their commute, and/or the inconvenience of veteran services' location on campus. The general stress of juggling multiple responsibilities was an important factor in not participating, as well.

Four WSU interviewees, further, spoke about the ***indifference*** they felt toward involvement in the larger veteran community on campus. This theme, in part, links to the themes of *responsibilities, schedules, and commutes* and *goal-oriented approach to college involvement* in our belonging analysis above as well. Some students told us they were not interested in SSM/V-oriented activities because school was for "business" and not for socializing. SSM/Vs were sometimes more likely to feel this way if they already had families or other communities off campus and were not looking for a university social outlet. "I try to keep my military associations outside of my obligations to a minimum," one WSU veteran told us, likening campus SSM/V get togethers to the "mandatory fun" he had experienced in the Army. "I just don't think I'm interested," another WSU student explained. "Balancing work, school and my family, I just really don't have time for outside events like that."

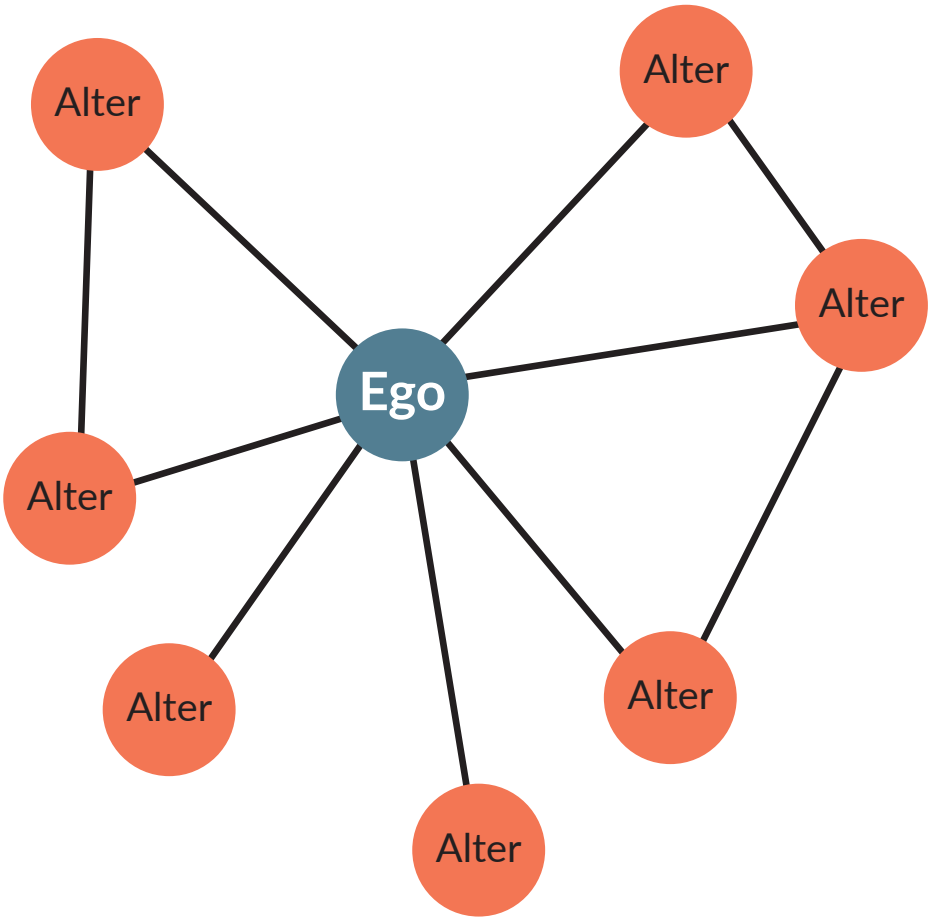
Social Support Networks

The most important goal of VETWAYS is to better understand SSM/V *social support networks*—or the relationship circles around students that provide assistance, advice, and camaraderie shown to help students succeed academically (e.g., Livingston et al., 2011). With this in mind, here we present survey-based data on the characteristics of undergraduate student social support networks.

We study groups of important relationships using "social network analysis," a set of research methods that ask participants to list important people they talk to about specific topics, then to provide information on the listed people and relationships (Wasserman & Faust, 1994). Researchers study these relationship characteristics to see how they might influence participants' attitudes, decisions, or behavior.

The social support network data that come from these kinds of questions are often represented in diagrams mapping the survey participant (called the "ego") and their contacts ("alters") as nodes. The listed relationships between the ego and their alters as well as among the alters are represented as lines between the nodes (Figure 13).

Figure 13. **Example social support network diagram**



The figure displays seven nodes arranged in a circle around one central node labeled "Ego." The Ego node is connected to each of these other nodes, labeled "Alter," by a straight line. The second and third Alters, the third and fourth Alters, and the seventh and first Alters are each also connected by lines.

Social support, both on- and off-campus, has been shown to be important to SSM/Vs (e.g., Benbow & Lee, 2022; Romero et al., 2015) as well as undergraduate students in general (e.g., Thomas, 2000). To measure social support using social network analysis, we first presented students with established survey questions. These questions asked them to provide data about alters they talked to about (1) personal matters, as well as alters they talked to about (2) academic/career-oriented matters. Further questions asked students to describe their relationships with alters, alter characteristics, as well as alter relationships with other alters.

Student survey responses, in turn, allowed us to develop a profile of each student's social support network that included the number of alters with whom each participant discussed personal and academic/career matters; how close the participant felt to each alter; the role(s) each alter played in the participant's life

(friend, co-worker, fellow college student, educator, veteran/service members, etc.); whether participants trusted each alter to have their back; and whether alters helped participants with important educational tasks, concepts, or decisions. Figure 14 displays an example student social support network.

Figure 14. **Example student social support network with relationship and alter characteristics**

The figure displays seven nodes arranged in a circle around one central node labeled "Survey Participant ('Ego')." The Ego node is connected to each of these other nodes, labeled "Alter 1," "Alter 2," and so on, by a straight line. Alters 2 and 3, Alters 3 and 4, and Alters 7 and 1, are each connected by straight lines. Each Alter is labeled with descriptors for what kinds of discussions they had with Ego, how close Ego felt to them, what role they played in Ego's life, whether they had Ego's back, and whether they helped Ego with education concepts or decisions. Alters' descriptions are:

- *Alter 1: Academic/career matters, Distant (1), Educator, Doesn't have back, Educational help*
- *Alter 2: Personal matters, Very close (4), Friend, Has back, No educational help*
- *Alter 3: Personal matters, Close (3), College student, Doesn't have back, No educational help*
- *Alter 4: Personal and academic/career matters, Very close (4), Family member, Has back, Educational help*
- *Alter 5: Academic/career matters, Less than close (2), College student, Veteran, Has back, No educational help*
- *Alter 6: Academic/career matters, Distant (1), Co-worker, Service member, Doesn't have back, No educational help*
- *Alter 7: Personal and academic/career matters, Close (3), College student, Has back, Educational help*

We then used these data to create nine measures of each survey participant's social support network. These measures, which have been shown to be important in past studies of other student and non-student populations (Benbow & Lee, 2022; Perry et al., 2018), include:

- ***Network size*** = total number of alters in each student's personal matters network, academic/career network, and personal matters and academic/career network combined
- ***Tie strength*** = average strength of the relationships between the student and all their alters on a scale from 1 (Distant) to 4 (Very close)
- ***Veteran/service member presence/absence*** = whether the student has listed a US military veteran/service member as an alter in their combined network
- ***Has your back %*** = the proportion of alters in the student's combined network who students trusted to have their back
- ***Educational help %*** = the proportion of alters in students' combined networks who students said helped them with important educational tasks, concepts, or decisions
- ***Educator presence/absence*** = whether the student has listed a college faculty or staff member as an alter in their academic/career network
- ***College student presence/absence*** = whether the student has listed another college student as an alter in their academic/career network

Here, we compile and compare these network characteristics between SSM/Vs and non-military students to better understand student relationships as well as how social support differs based on an whether one has served in the military. Table 9 describes these nine social support network measures for WSU survey participants.

***Table 9*. Survey-reported social support network measures for WSU SSM/Vs and non-military students**

Social Support Network Measures	SSM/Vs	Non-Military Students
Combined network size*	4.24 (SD=2.69)	5.44 (SD=2.85)
Personal matters network size+	3.29 (SD=1.66)	3.89 (SD=1.46)
Academic/career network size	3.76 (SD=2.63)	4.61 (SD=2.92)
Tie strength	3.29 (SD=0.56)	3.25 (SD=0.54)
Veteran/service member presence/absence***	0.70 (SD=0.46)	0.33 (SD=0.47)
Has your back %+	75.80 (SD=30.13)	67.34 (SD=30.37)
Educational help %	52.31 (SD=30.36)	54.05 (SD=28.99)
Educator presence/absence	0.22 (SD=0.42)	0.32 (SD=0.47)
College student presence/absence	0.29 (SD=0.46)	0.43 (SD=0.50)

Initial results on SSM/V and non-military student social support networks reveal several findings:

- WSU SSM/Vs listed an average of 3.29 people with whom they discussed personal matters, 3.76 people with whom they discussed academic/career matters, and 4.24 people in total in their combined social support networks.
- WSU students reported an average tie strength of 3.29 with their network alters, meaning participants on average felt close to those they spoke to about personal and academic/career matters.

WSU SSM/Vs have smaller personal matters networks, smaller combined networks, more veteran/service member ties, and more contacts who they said "had their back" than WSU non-military students.

- WSU SSM/Vs on average had less than one educator and less than one fellow college student with whom they discussed academic or career matters.
- WSU SSM/Vs on average have 1.25 fellow veterans/service members in their combined social support networks; WSU non-military students had less than one veteran/service member in their networks.
- Findings indicate significant social support network differences between WSU SSM/Vs and non-military students: SSM/Vs have smaller personal matters networks, smaller combined networks, more veteran/service member ties, and a marginally higher proportion of contacts they said "had their back."

Connecting Student Attributes to Important Outcomes

Though the data presented above represent only the first stage of the VETWAYS longitudinal research process among these participants, we can still use initial data to calculate whether differences in various student attributes connect or not to important outcomes.

Using regression analyses, here we test how different attributes and perspectives of SSM/Vs (n=573) across all five universities in this study relate specifically to students' (1) sense of campus belonging, (2) academic major belonging, (3) work volition, (4) institutional confidence, and (5) veteran service engagement.[7] All significant findings between measures are displayed in Tables 10 and 11. More detailed regression results are displayed in Appendix B.

First, Table 10 shows the relationships between several SSM/V characteristics and students' campus belonging, academic major belonging, institutional confidence, and veteran services engagement.

7 Regression analyses mathematically estimate the statistical relationship or lack thereof between participant measures. When testing finds that changes in one measure across participants—high school GPA, for instance—predict an increase or decrease of another measure across participants—college GPA, to use another example—the measures are said to be "significantly correlated" with one another if it is mathematically determined that there is a low probability (usually 5% or less) the association is due to chance. Multiple regressions, which we use here, allow one to test the combined association of multiple measures on an outcome variable.

Table 10. **Significant regression results on characteristics of SSM/Vs**

Variable	Significant Results
Campus Belonging	• Older SSM/Vs were marginally more likely to report a greater sense of campus belonging (+)
Academic Major Belonging	• SSM/Vs with higher first-year college GPAs reported a significantly greater sense of belonging in their majors (*)
Institutional Confidence	• Older SSM/Vs (***) were significantly more confident and satisfied with their higher educational institutions • SSM/Vs who were married (*) were significantly less confident with their higher educational institutions
Veteran Services Engagement	• SSM/Vs of Color were marginally more likely to interact with certifying officials (+), marginally more likely to participate in veteran campus activities or programs (+), and marginally more likely to engage with veteran services overall (+) • Older SSM/Vs were significantly more likely to interact with campus veteran coordinators (*) • Male SSM/Vs visited their campus veteran services offices significantly more often than female SSM/Vs (**) • SSM/Vs with lower first-year college GPAs were marginally more likely to visit their veteran service offices (+) and veteran lounges (+) more often • Among SSM/Vs, more often interacting with certifying officials (***) and veteran coordinators (***), as well as more often participating in veteran services events or programs (***), visiting the veteran service office (***), and hanging out in the veteran lounge area (***), significantly associates with higher feelings of campus belonging • More often interacting with campus veteran coordinators (+) marginally associates with higher work volition • SSM/Vs who more often interact with university certifying officials (*) and/or more often visit their campus veteran services office (*) have higher levels of institutional confidence • Among SSM/Vs, higher levels of veteran service engagement overall predict higher levels of campus belonging (***) and institutional confidence (*)

*Note: Each independent variable's association with each outcome variable was tested with gender, race/ethnicity, age, enrollment level, first generation status, marriage status, first year college GPA, and institution as covariates. Symbols representing P values for significant relationships are displayed in attendant parentheses with + $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.*

We next tested the association of each of the social support network measures from surveys with these same outcomes, as well as the association between different facets of veteran service engagement with social support network measures. Significant results are displayed in Table 11. Gender, race/ethnicity, age, enrollment level, first-generation status, marriage status, first-year college GPA, and institution are controlled in these regression models. More detailed regression findings are displayed in Appendix B.

Table 11. **Significant social support network characteristics regression results**

Variable	Significant Results
Campus Belonging	• All else being equal, having a larger personal matters network (*), a larger academic/career network (***), and a larger combined network (***) predicts a greater sense of campus belonging among SSM/Vs • Having a college student (***) and/or a college educator (***) in one's academic/career network predicts a greater sense of campus belonging among SSM/Vs • Though stronger social network ties predict higher levels of campus belonging among non-military students (***), there is no significant relationship between tie strength and campus belonging among SSM/Vs
Academic Major Belonging	• SSM/Vs who have a larger personal matters network (*), a larger academic/career network (**), and/or a larger combined network (**) have a greater sense of belonging in their academic major • Among SSM/Vs, having a college educator contact (*) and/or a higher proportion of contacts who help with educational decisions or concepts (+) associates with a greater sense of belonging to their major community • While closer, stronger ties predict higher levels of academic major belonging among non-military students (***), there is no significant relationship between tie strength and major belonging among SSM/Vs
Work Volition	• For SSM/Vs, though larger academic/career networks marginally predict higher levels of career confidence and self-efficacy (+), there is no association between academic/career network size and work volition among non-military students • SSM/Vs who have higher proportions of alters who they trust "have their back" have significantly higher work volition (*)
Institutional Confidence	• SSM/Vs who have larger personal matters networks (*), larger academic/career networks (*), and larger combined networks (*) have significantly more confidence in their universities • SSM/Vs with stronger network ties (**) or whose networks have higher proportions of alters who "have their back" (***) are more likely to have higher institutional confidence • Having a college educator (*) in one's academic/career network significantly predicts more institutional confidence and satisfaction among SSM/Vs, but not non-military students

Variable	Significant Results
Veteran Services Engagement	• All else being equal, more campus veteran service engagement overall associates with larger combined (*) and academic/career social networks (**) as well as networks that are more likely to have veteran/service members (**), college educators (***), fellow college students (**), and alters who help with educational concepts and decisions (*) • More **interaction with veteran coordinators** associated with larger combined (**), personal (*) and academic/career social networks (***) and networks that are more likely to have veteran/service members (*), college educators (***), fellow college students (*), and alters who help with educational concepts and decisions (*) • SSM/Vs who participated more often in **veteran services campus programming** were more likely to have fellow veterans/service members (**), college educators (***), and college students (***) in their networks; they were also less likely to have stronger relationships overall (*) • More **visits to the veteran service office** associated with larger combined social networks (**), larger personal matters networks (*), larger academic/career networks (***), as well as a significantly higher likelihood of having at least one veteran/service member (*), one college educator (***), and one fellow college student (**) to talk to about academic and career matters • More time **hanging out in the campus veteran lounge** predicts larger academic/career networks (*), a higher likelihood of having a veteran/service member (**), college educator (***), or fellow college student (**) in one's network, and a higher proportion of alters who help with educational concepts or decisions (*)

*Note: Each social support network measure's association with each outcome was tested with gender, race/ethnicity, age, enrollment level, first generation status, marriage status, first year college GPA, and institution as covariates. Symbols representing P values for significant relationships are displayed in attendant parentheses with + $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.*

Insights and Recommendations

While the data above support existing studies, they also extend previous scholarship by suggesting that SSM/Vs differ in important respects from other nontraditional students. SSM/Vs bring unique assets to the university, as military experience significantly associates with higher first-year college grades and a greater sense of confidence in one's career choices, even after controlling for age and other important nontraditional student attributes. SSM/Vs also face unique difficulties: they spend significantly more time out of formal civilian schooling than their nontraditional student peers; have a significantly higher prevalence of physical and cognitive impairments; and report lower levels of belonging on campus and in academic majors and less satisfaction with their higher educational institutions than non-military students of the same age (see Benbow et al., 2024).

But just as analyses show that university experiences can be qualitatively different for these students, they also suggest several strategies educators can use to improve SSM/V-specific experiences. Here, we offer recommendations from our study and from previous research meant to focus specifically on the needs and perspectives of this important student population.

1. Establish university connection with newly arriving SSM/Vs

Results suggest that the challenges SSM/Vs face as they enter the university can be partly alleviated by university outreach, particularly through institutional, departmental, classroom, or service-directed efforts to welcome and engage SSM/Vs. Survey and interview findings show that early and consistent SSM/V contact with educators, certifying officials, veteran coordinators, fellow student veterans/service members, and veteran resource spaces can help students gain a foothold on campus and improve their sense of belonging and university satisfaction.

Early and consistent contact with educators, certifying officials, veteran coordinators, fellow student veterans/ service members, and veteran resource spaces can help SSM/Vs gain a foothold on campus.

- Contacts between university veteran service professionals and new SSM/Vs should ideally begin months before students arrive. These personal contacts, which help build relationships and trust, can initially focus on GI and Free Application for Federal Student Aid (FAFSA) paperwork and other campus-oriented tasks.

- Universities can work to offer students SSM/V-focused university orientation sessions upon arrival, which can take place in single-day, multi-day, or weekly formats, through classroom meetings or exposition-like events, depending on available timeframe and resources.
- Cohort-style orientation meetings or expositions, in particular, can provide SSM/Vs with a chance to develop personal connections with other students, veteran services educators, and other stakeholders.
- Organizers can bring together campus student faculty veterans, researchers working on veteran issues, student organization representatives, and other community members trained to work with service members or veterans to help introduce students to the local campus and off-campus community.
- While initial contact is crucial, results indicate it is also important to continually follow up with SSM/Vs as they settle into classes and university life. In general, we suggest multipronged communication efforts—using social media, regular electronic messages with timely information, and phone calls—to establish contact and show students that they have an authentic support unit on campus.

2. Focus on dependable, professional, and authentic SSM/V services

Interviewees suggested it was important for service professionals to offer moral support though encouragement, understanding, and having their back during difficult moments.

VETWAYS interviews show that SSM/Vs going to college, many of whom already have numerous responsibilities off campus, are inundated with information and demands in an often unfamiliar social and cultural environment. They also come to the university from an institution in which structure, respect, professionalism, and common purpose mark daily interactions. For this reason, they often appreciate straightforward, informed, and trustworthy support focused on the numerous bureaucratic processes that help them attend university. Further, while they may not ask for it, interviewees suggested it was important for service professionals to offer moral support though encouragement, understanding their perspectives and experiences, and having their back during difficult moments.

- In addition to providing continued mastery and expertise with GI educational benefits, veteran services offices may foster closer partnerships with other offices on campus to unify and enhance SSM/V support. Universities in this study showed that their SSM/Vs benefited from strong links to disability services, financial aid, enrollment and transfer services, academic, career, and health counseling, as well as affinity offices supporting nontraditional and other marginalized communities.
- Though certification and community-building require different kinds of work duties and areas of expertise, both positions are foundational to comprehensive, veteran-friendly SSM/V support. Co-location of benefits and affinity services in one veteran resource space, in this regard, can be especially beneficial to SSM/Vs.
- Educators can lobby for greater access to campus administrative information systems that allow veteran services offices to more effectively track military-affiliated students from admission to graduation, particularly those on campus who are not using GI benefits. This would allow veteran services to reach more students with information, involve more students in community building efforts, and be more efficient in their support of SSM/Vs with a diversity of experiences.
- Institute exit surveys and/or assessment protocols focused on graduating student military service members and veterans, both to obtain feedback and advice for possible changes to campus service and

to show students their input is valuable.

- Offices can continue developing institutional administrative systems and clear policies to better assist SSM/Vs, including supporting well-trained staff who are ready to execute tuition refunds and expedited re-enrollment for sudden, mid-term deployments; giving SSM/Vs priority class registration; and better facilitating transfer credit for military experiences.

3. Accentuate SSM/V academic- and career-related drive and success

Universities should capitalize on the unique backgrounds and assets of SSM/Vs. Not only do many SSM/Vs bring diverse perspectives to campus as older, first-generation, transfer, or commuting students, but their time in the military has given them a wealth of skills and experiences that translate well to academic and professional spheres (see Benbow, 2022). University faculty and staff can work to accentuate and build on SSM/V sociocultural strengths in several ways.

Universities should capitalize on the unique backgrounds and assets of SSM/Vs. Not only do many SSM/Vs bring diverse perspectives to campus, but their time in the military has given them a wealth of skills and experiences that translate well to academic and professional spheres.

- Educators can change perceptions of SSM/Vs by reframing SSM/V support and service through asset-oriented language. The veteran services office at University of Wisconsin–Madison, for instance, recently changed its name from the Veteran Services and Military Assistance Center to University Veteran Services, in part to de-emphasize SSM/V "assistance" needs and accentuate SSM/V community support and independence.
- Educators can seek to utilize the knowledge, skills, and experiences of SSM/Vs by developing cocurricular opportunities in which non-veteran students can learn from SSM/V experiences.
- In the classroom, SSM/Vs who are comfortable with the opportunity may want to lead group activities or speak as "experts" on various subjects that touch on the expertise they have gained in the military, such as working in diverse institutions, engaging internationally, or communicating efficiently with authority figures (e.g., Sullivan & Yoon, 2020).
- Educators can provide expanded "Green Zone" professional development trainings to campus faculty and staff that focus on instilling knowledge of military culture and SSM/V transitions. SSM/V panels, in which students can share their first-hand experiences, often enrich these trainings.
- Advisors and educators should continue to remind SSM/Vs of the wealth of knowledge they bring to college from their time in the military. Educators can purposefully encourage students to harness SSM/V familiarity with military culture and skillsets (communication, adaptability, discipline) in their academic lives. They can also encourage SSM/Vs to articulate these strengths on graduate school applications and in interviews with prospective employers.

4. Build on the unique value and diversity of SSM/V social support networks

Reports have suggested that veterans and service members are more likely than civilians without military experience to show civic engagement, assume leadership in community-oriented activities, and talk with their neighbors (Tivald, 2016). VETWAYS findings above also indicate that SSM/V college experiences are improved when these students' social support networks are enhanced. It is therefore important to build

on SSM/Vs' propensity toward social involvement, wherever it might occur. While camaraderie with fellow SSM/Vs and educators can significantly improve students' academic experiences, brokering greater SSM/V social integration locally—on and off campus—is a helpful way to foster a feeling of belonging and increased confidence and academic motivation.

- Educators working with veterans and their families can coordinate and fund semi-regular social events—such as formal dinners, speaker series, athletic event outings, or BBQ contests—that bring student veterans together with non-veteran affinity organizations, campus services offices, and others interested in supporting the SSM/V community.
- Incorporating an academic-oriented element in such events will help increase attendance. As results show, SSM/Vs, like other nontraditional students whose lives are focused off campus, are often less interested in purely social events.
- Encourage local military-affiliated student organizations, such as local Student Veterans of America (SVA) chapters, by providing recruitment assistance, expert advice, meeting space, connections to speakers, or even funding for organizational events.
- Develop peer mentorship programs that pair SSM/Vs with fellow service member/veteran guides. Model programs include the University of Michigan's Peer Advisors for Veteran Education (PAVE) program, which is available to campuses across the country, or the University of Colorado–Colorado Spring's Boots to Suits program, which matches student veterans with community members in their chosen career fields.
- Foster SSM/V participation in curricular or extra-curricular programs in the local community—for example, charitable donation drives or benefit events. College educators can harness the service orientation of many SSM/Vs through activities that allow SSM/Vs to further develop networks on and off campus (e.g., Albright et al., 2020).
- Point SSM/Vs to a local community-based peer support group for veterans and service members, which can offer SSM/Vs opportunities to replenish or expand social ties after military service, engage in prosocial behavior, and obtain pragmatic information on their transitions into civilian life (e.g., Drebing et al., 2018).

5. Increase budgetary support for campus veteran services center and staff

Following through on these recommendations requires considerable budgetary support for campus veteran service offices and staff, much of whose time is consumed with administratively complex but essential certification duties that allow SSM/Vs timely receipt of their state and federal education benefits. Considering the service and sacrifice of SSM/Vs, as well as the vital role these students will play in universities and the workforce, we believe leaders and administrators should consider support for SSM/Vs as an investment rather than an expense.

Following through on these recommendations will require increased support for veteran service staff and resource centers, which prove essential to the university experiences of many SSM/Vs on campus.

- Because benefit certification is a critical service that directly influences SSM/V financial viability from semester to semester, carving out more resources for SSM/V community-building programming will necessitate additional paid time for planning, coordination, and advising activities.
- Social and community-building initiatives—like University of Michigan's PAVE program, student veteran

organization support, or veteran-oriented events—are a true benefit to SSM/Vs. Staff should be given the resources they need to carry out this kind of programming. Universities may not be able to fund additional full-time staff but can still make a difference by adding part-time employees or graduate students to veteran service office staff.

- Establish or reinvigorate student veteran and service member lounge spaces—preferably on central campus—which give SSM/Vs a safe space to spend time between classes, study, and interact with other military-affiliated students
- Educators can seek to incorporate more flexible advising options that expand the in-person support campus educators and staff traditionally provide during business hours. Alternatives could include offering student advising, SSM/V-specific tutoring, or orientations in evenings or during the weekend, and through virtual platforms.
- If they have not already done so, university leaders may consider moving veteran support personnel, who traditionally have been located in university finance or academic affairs departments, to student life-oriented centers. This change will not only allow more space for SSM/V community-building activities, but also send the message that SSM/Vs are an important affinity group whose perspectives and concerns deserve to be recognized.
- Such changes will not only allow more space for SSM/V community-building activities, but also send the message that SSM/Vs are an important affinity group whose perspectives and concerns deserve to be recognized and included in the university community.

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Appendix A: Research Methods

Approach

The data in this report were gathered for a larger study focused on the connections between SSM/V personal networks and science, technology, engineering, mathematics, and medical (STEMM) career pathways among undergraduate student military service members/veterans. This study uses a convergent mixed-methods case study approach (Creswell & Plano Clark, 2018). In this approach, a bounded issue or phenomenon is explored using equally highlighted quantitative and qualitative data. These data are collected simultaneously and then analyzed separately to answer attendant research questions. Ultimately, quantitative and qualitative results are meant to be interpreted together to provide a wider, triangulated interpretation of the central phenomenon. Our study methods and approaches are displayed in Table 12.

Sampling

Data collection took place at the University of Maryland in fall 2022 and at Middle Tennessee State University, the University of New Mexico, the University of Texas at San Antonio, and Wright State University in spring 2023. Data include student online survey responses from both SSM/Vs and non-military students as well as SSM/V interviews across these five public universities chosen for their institutional and geographic diversity.

First, the researchers used a purposeful, nonprobability procedure to recruit SSM/Vs—defined as currently enrolled undergraduate students in the National Guard or Reserves or students who had completed military service (Barry et al., 2014) —by asking veteran service directors in the five universities to email all identified SSM/Vs study information and a link to our online survey. Non-responders in each institution's SSM/V sample frame received four emails with the survey link before survey recruitment was closed. After SSM/V surveys were collected, the research team analyzed the age and enrollment status of the university's SSM/V sample. Using non-military student email information provided by each university's institutional research office, the research team then sent recruitment emails with the same online survey instrument to subsets of non-military students at each institution based on sample age targets. Non-responders in each institution's non-military student sample frame received four emails with the survey link before survey recruitment was closed.

Survey recruitment elicited 573 survey responses from SSM/Vs and 1,017 survey responses from non-military students across the institutions, with each respondent receiving a $20 electronic Amazon gift certificate for their participation. Because this response limits our ability to generalize beyond the sample, readers should interpret overall survey results with caution.

SSM/V interviewee participants were recruited through the survey. At the survey's end, SSM/V respondents who had earlier listed a STEMM major in Biological or Life Science, Engineering, Health, Mathematics or Computer Science, Physical Science, or Social Science (National Science Board, 2018) were asked if they were interested in qualitative participation. Those who volunteered were asked to provide contact information for interview scheduling. Seventy-four SSM/Vs in total participated in these interviews, each of whom received a $30 electronic Amazon gift certificate for their time. To ensure as many different perspectives as possible in interviews, we purposefully included more underrepresented

minorities, women, first-generation students, and persons with disabilities in our interview sample when we were able to choose among multiple volunteers.

Table 12. **Study methods**

Approaches	Convergent mixed methods / Case study / Longitudinal / Personal social network analysis
Sites	Middle Tennessee State University / University of Maryland / University of New Mexico / University of Texas at San Antonio / Wright State University
Participants	Student military service members and veterans (surveys) / Students without military service experience (surveys) / Student military service members and veterans in STEMM majors (interviews)
Instruments	Online surveys / Zoom semi-structured interviews
Analysis	Descriptive and correlational statistics (surveys) / Segmentation and inductive coding (interviews)

Instruments

Surveys

Online surveys were designed in part to gather social support network measures using ego network techniques in which questions elicit the details of social ties around each individual (Perry et al., 2018). Other items were meant to gather multiple measures on respondent educational and academic experiences. The research team conducted multiple cognitive tests of the Qualtrics instrument, asking volunteer SSM/Vs, veterans, and veteran coordinators to complete the survey with a researcher present to whom they could ask questions and comment as they went through the survey (e.g., Bernard, 2011). With feedback and results from this initial sample, the research team finalized the instrument for administration.

Surveys took about 15 minutes to complete. Following methods deployed in previous VETWAYS work (see Benbow & Lee, 2022) and originally described in Burt (1984) and Marin and Hampton (2007), the online instrument included two separate "name generator" questions designed to elicit alters whom respondents talk to about personal and academic/career matters (Burt et al., 2012). These read as follows:

Personal network: *Please list people with whom you have discussed matters important to you—like good or bad things that happen to you, problems you are having, or important concerns you may have—during the last 6 months.*

Academic/career network: *Please list people with whom you have discussed academic or career matters—like your major area of study, academic or career goals, or job opportunities—during the last 6 months.*

After respondents list as many as 10 unique alters in answer to these name generators, we asked them to characterize every alter and alter relationship by factors shown to be important to networks in previous research, including the role of each alter (college student, college educator, family, veteran/service member, etc.); how close participants felt to them (distant, less than close, close, etc.); each person's education level

(high school, some college, associate's degree, bachelor's degree, etc.); whether alters knew one another (Ackerman et al., 2009; Barry et al., 2012; DeBerard et al., 2004; Molina & Morse, 2015), and a number of other social support factors. The survey also asked questions about student high school, military, and demographic characteristics, university life, career plans, as well as several demographic items based on age, gender, race/ethnicity, and parents' education level.

Interviews

Semi-structured interview protocols were designed by the research team to elicit student perspectives and experiences regarding their education and career pathways and social support networks. Initial versions of the protocol were tested with the help of several SSM/Vs and veteran coordinators. After these mock interviews, researchers talked through different items on the protocol with these participants. Using participant suggestions and feedback, researchers edited the instrument, retested with more participants, and finalized.

Student interviews took place over the Zoom online video platform. Each SSM/V interview lasted about an hour. Interviews began with questions about personal and military experiences, college and academic major decisions, and career goals, then moved on questions regarding identified social support networks from respondents' surveys, feelings of campus belonging, and other educational and career issues. After interviews were completed, interview audio recordings were transcribed and uploaded to NVivo 12 (QSR International, 2020).

Analysis

Quantitative

Survey data presented in this report were analyzed in three stages after the initial data cleaning was performed in R (R Core Team, 2019). First, we organized the data from the personal network section of the survey in Stata (StataCorp, 2019), then analyzed it in E-NET (Borgatti, 2006) as well as R to generate a series of social support network measures that we used in analyses. Second, we calculated basic descriptive statistics measuring central tendency, frequency, and variability (Mishra et al., 2019) on the participating students' personal information and social network measures presented in the report's tables. To help readers from each institution better understand how SSM/Vs from their university compare with non-military students, we performed a series of correlational tests on selected measures presented in this report, using controls for the important variables of gender, race/ethnicity, age, enrollment level, first-generation status, marriage status, and first year college GPA. We also included a university fixed effect (Gardiner et al., 2009) in our models to control for the average differences across universities in any observable or unobservable predictors. Third, we conducted exploratory regression analyses (Braun & Oswald, 2011) to identify important predictors while exploring the relationships among SSM/Vs' personal characteristics, social support network measures, and selected outcome measures. The important predictors we identified in our analyses are presented and discussed.

Qualitative

Interview data presented in this report were analyzed by the Principal and Co-Principal Investigator. To speak to student perspectives on important issues in this report, student interviews were coded and analyzed in NVivo 12, a qualitative analysis software program. Here, the two researchers first segmented all student interviews by topic (transitions from military into university, belonging, veteran services engagement, etc.). For each major subject reported above, the researchers analyzed attendant interview segments to detail prominent ideas mentioned for that subject among each institution's SSM/Vs, grouping similar interviewee statements together into discrete themes. For each topic presented, a table was created with themes, definitions of these themes, and the number of SSM/V interviewees who spoke to each theme. A discussion of the topic's major findings was then written in prose form. Here, the authors chose student quotations to represent more often-mentioned ideas and in a few instances developed subthemes from interviews to form cohesive, subthematic definitions (Charmaz, 2014; Ryan & Bernard, 2003). Additionally, two-word clouds were also created for the cultural transition analysis to represent SSM/V experiences between military and university spheres. Here, the Co-Principal identified several key terms SSM/V interviewees used to describe each sphere. The Principal Investigator then entered these terms, based on their prominence in the interviews, into a word cloud program (Ahearn, 2014).

Appendix B: Regression Tables

Table 13. **Regression of outcome variables on SSM/V characteristics (n=560)**

Outcome Measures					
	Campus Belonging	**Academic Major Belonging**	**Work Volition**	**Institutional Confidence**	**Overall Veteran Services Engagement**
Individual					
Male	-0.019	0.029	0.026	-0.104	0.121
	(0.095)	(0.086)	(0.074)	(0.078)	(0.084)
Student of Color	0.060	-0.025	0.002	0.013	0.141+
	(0.094)	(0.085)	(0.073)	(0.077)	(0.083)
Age (log)	0.331+	0.153	0.090	0.604***	0.136
	(0.200)	(0.179)	(0.155)	(0.164)	(0.177)
Enrollment level	-0.026	-0.003	-0.004	-0.023	0.029
	(0.041)	(0.037)	(0.032)	(0.034)	(0.037)
First generation	0.094	0.094	0.057	0.105	-0.027
	(0.090)	(0.082)	(0.070)	(0.074)	(0.080)
Marriage status	-0.090	0.058	0.045	-0.179*	0.070
	(0.096)	(0.086)	(0.074)	(0.079)	(0.085)
First-year college GPA	0.034	0.078*	-0.003	0.040	-0.035
	(0.035)	(0.032)	(0.027)	(0.029)	(0.031)
Institution					
Middle Tennessee State	0.069	0.193+	0.200*	0.206*	0.187+
	(0.120)	(0.109)	(0.094)	(0.099)	(0.107)
Maryland	-0.073	-0.091	-0.093	-0.040	0.554***
	(0.169)	(0.155)	(0.132)	(0.140)	(0.149)
New Mexico	0.141	0.201	-0.004	0.145	0.238+
	(0.142)	(0.128)	(0.111)	(0.117)	(0.126)
Wright State	0.028	0.073	0.053	-0.197+	0.523***
	(0.136)	(0.122)	(0.106)	(0.112)	(0.120)

*Note: The University of Texas at San Antonio is used as the institutional reference group. + p < .10; * p < .05; ** p < .01; *** p < .001.*

Table 14. **Regression of veteran services engagement on SSM/V characteristics (n=560)**

	Veteran Services Engagement				
	Interacted with Certifying Official	**Interacted with Veteran Coordinator**	**Participated in Student Veteran Campus Program**	**Visited Veteran Services Office/Center**	**Hung out in Student Veteran Lounge(s)**
Individual					
Male	0.200+	0.008	0.028	0.294**	0.063
	(0.110)	(0.110)	(0.094)	(0.112)	(0.120)
Student of Color	0.212+	0.070	0.171+	0.102	0.126
	(0.108)	(0.108)	(0.092)	(0.110)	(0.118)
Age (log)	0.053	0.455*	-0.207	0.134	0.251
	(0.230)	(0.229)	(0.199)	(0.234)	(0.251)
Enrollment level	0.099*	-0.017	0.059	0.051	-0.056
	(0.048)	(0.048)	(0.041)	(0.048)	(0.052)
First generation	-0.079	-0.073	-0.040	0.013	0.036
	(0.104)	(0.104)	(0.089)	(0.106)	(0.113)
Marriage status	0.059	0.013	0.077	0.144	0.075
	(0.110)	(0.110)	(0.095)	(0.112)	(0.120)
First-year college GPA	-0.003	-0.020	-0.013	-0.071+	-0.078+
	(0.040)	(0.040)	(0.035)	(0.041)	(0.044)
Institution					
Middle Tennessee State	-0.003	0.459**	0.065	0.283*	0.124
	(0.140)	(0.138)	(0.119)	(0.141)	(0.152)
Maryland	0.474*	0.471*	0.981***	0.034	0.783***
	(0.195)	(0.194)	(0.166)	(0.200)	(0.211)
New Mexico	0.579***	0.405*	-0.103	0.633***	-0.277
	(0.163)	(0.163)	(0.140)	(0.167)	(0.178)
Wright State	0.420**	0.799***	0.270*	0.424**	0.701***
	(0.156)	(0.157)	(0.134)	(0.159)	(0.170)

*Note: The University of Texas at San Antonio is used as the institutional reference group. + p < .10; * p < .05; ** p < .01; *** p < .001*

Table 15. **Regressions of SSM/V outcome variables on veteran services engagement (n=560)**

	Outcome Measures			
	Campus Belonging	**Academic Major Belonging**	**Work Volition**	**Institutional Confidence**
Interacted with Certifying Official	0.213***	0.050	0.050+	0.065*
	(0.036)	(0.034)	(0.029)	(0.031)
Interacted with Veteran Coordinator	0.162***	-0.012	0.057+	0.034
	(0.037)	(0.034)	(0.029)	(0.031)
Participated in Student Veteran Campus Program	0.250***	0.026	0.030	0.041
	(0.042)	(0.039)	(0.034)	(0.036)
Visited Veteran Services Office/ Center	0.181***	0.022	0.038	0.060*
	(0.036)	(0.033)	(0.029)	(0.030)
Hung out in Student Veteran Lounge(s)	0.122***	0.017	0.038	0.036
	(0.034)	(0.031)	(0.027)	(0.028)
Overall Veteran Services Engagement	0.301***	0.034	0.071+	0.079*
	(0.047)	(0.044)	(0.038)	(0.040)

*Note: Each veteran services engagement measure association with each outcome was tested with gender (with males as the reference group), race/ethnicity (with White students as the reference group and Students of Color including all students self-identifying as mixed race), age, enrollment level, first generation status, first-year college GPA, marriage status, and institution as covariates. Results for these covariates are not reported. + p < .10; * p < .05; ** p < .01; *** p < .001.*

Table 16. **Comparative regressions of outcome variables on social support network characteristics**

	Outcome Measures								
	Campus Belonging		Academic Major Belonging		Work Volition		Institutional Confidence		Veteran Services Engagement
	SSM/Vs	Non-Military	SSM/Vs	Non-Military	SSM/Vs	Non-Military	SSM/Vs	Non-Military	SSM/Vs
Combined network size	0.059***	0.024*	0.043**	0.033***	0.019	0.007	0.029*	0.017+	0.037*
	(0.017)	(0.011)	(0.015)	(0.010)	(0.013)	(0.010)	(0.014)	(0.010)	(0.015)
Personal matters network size	0.065*	0.044*	0.056*	0.050**	0.015	0.007	0.044*	0.038*	0.035
	(0.027)	(0.020)	(0.024)	(0.017)	(0.021)	(0.017)	(0.022)	(0.017)	(0.024)
Academic/career network size	0.063***	0.024*	0.042**	0.041***	0.023+	0.006	0.035*	0.023*	0.047**
	(0.017)	(0.011)	(0.016)	(0.009)	(0.013)	(0.009)	(0.014)	(0.009)	(0.015)
Tie strength	0.004	0.295***	-0.031	0.187***	0.034	0.195***	0.220**	0.195***	-0.115
	(0.081)	(0.061)	(0.073)	(0.053)	(0.063)	(0.052)	(0.067)	(0.052)	(0.072)
Veteran/service member presence/ absence	0.062	-0.115	0.005	0.049	0.062	-0.083	0.048	-0.083	0.267**
	(0.099)	(0.077)	(0.089)	(0.066)	(0.077)	(0.066)	(0.082)	(0.065)	(0.087)
Has your back %	0.002	0.002*	-0.000	0.003**	0.003*	0.002+	0.005***	0.003***	0.000
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Educational help %	0.001	0.004***	0.002+	0.002*	0.001	0.003***	0.000	0.002*	0.003*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Educator presence/absence	0.546***	0.191**	0.251*	0.166**	0.050	0.044	0.234*	0.062	0.530***
	(0.112)	(0.071)	(0.101)	(0.060)	(0.089)	(0.061)	(0.094)	(0.061)	(0.098)
College student presence/absence	0.373***	0.200**	0.070	0.203***	-0.031	0.060	-0.002	0.030	0.250**
	(0.098)	(0.067)	(0.089)	(0.057)	(0.077)	(0.057)	(0.082)	(0.057)	(0.087)

*Note: Each social support network measure association with each outcome was tested with gender (with males as the reference group), race/ethnicity (with White students as the reference group and Students of Color including all students self-identifying as mixed race), age, enrollment level, first generation status, first-year college GPA, marriage status, and institution as covariates. Results for these covariates are not reported. + p < .10; * p < .05; ** p < .01; *** p < .001.*

Table 17. **Comparative regressions of SSM/V social support network characteristics on veteran services engagement**

	Social Support Network Characteristics								
	Combined network size	**Personal matters network size**	**Academic/ career network size**	**Tie strength**	**Veteran/ service member presence/ absence**	**Has your back %**	**Educational help %**	**Educator presence/ absence**	**College student presence/ absence**
Interacted with Certifying Official	0.056	0.012	0.076	-0.012	0.157+	0.358	1.770	0.265**	0.030
	(0.095)	(0.060)	(0.093)	(0.021)	(0.090)	(1.102)	(1.244)	(0.096)	(0.087)
Interacted with Veteran Coordinator	0.293**	0.124*	0.310***	-0.023	0.198*	-0.324	2.675*	0.373***	0.186*
	(0.094)	(0.060)	(0.092)	(0.021)	(0.092)	(1.100)	(1.251)	(0.098)	(0.087)
Participated in Student Veteran Campus Program	0.081	0.030	0.181+	-0.064*	0.319**	-0.517	2.508+	0.508***	0.352***
	(0.110)	(0.070)	(0.107)	(0.025)	(0.121)	(1.293)	(1.470)	(0.106)	(0.098)
Visited Veteran Services Office/ Center	0.286**	0.121*	0.307***	-0.031	0.217*	0.427	2.113+	0.496***	0.238**
	(0.092)	(0.059)	(0.090)	(0.021)	(0.088)	(1.066)	(1.210)	(0.100)	(0.085)
Hung out in Student Veteran Lounge(s)	0.149+	0.039	0.189*	-0.016	0.234**	-0.191	2.545*	0.321***	0.200**
	(0.086)	(0.055)	(0.084)	(0.019)	(0.090)	(1.002)	(1.135)	(0.086)	(0.078)
Overall Veteran Services Engagement	0.303*	0.115	0.363**	-0.044	0.383**	0.013	3.870*	0.630***	0.319**
	(0.121)	(0.078)	(0.118)	(0.027)	(0.126)	(1.420)	(1.611)	(0.125)	(0.111)

*Note: Each veteran services engagement measure association with each social support network outcome was tested with gender (with males as the reference group), race/ethnicity (with White students as the reference group and Students of Color including all students self-identifying as mixed race), age, enrollment level, first generation status, first-year college GPA, marriage status, and institution as covariates. Results for these covariates are not reported. + p < .10; * p < .05; ** p < .01; *** p < .001.*

VETWAYS

The Veteran Education to Workforce Affinity and Success Study

About

The Veteran Education to Workforce Affinity and Success Study (VETWAYS) is a National Science Foundation-funded project based at the University of Wisconsin-Madison. VETWAYS is focused on the social support networks and academic pathways of an increasingly important segment of the U.S. college student population: military service members and veterans.

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