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Comparing Student Service Member/Veteran and Civilian Student Undergraduate Characteristics and Perspectives: An Exploratory Quantitative Study

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ABSTRACT

Student service members/veterans (SSM/Vs)—defined as undergraduates in the U.S. military or who have military experience—have been an emergent group of adult learners in American 4-year universities. Because SSM/Vs diversify universities and are supported by significant public investments, their success is critical. Little quantitative research, however, has consistently focused on the question of whether military experience—as it is distinct from common adult student traits—significantly associates with student attributes and viewpoints research shows are important in college. Using survey data from SSM/Vs and civilian undergraduate students across four public universities (n=1,255), field theory, and multiple regression analyses, we explore correlations between student military experience and important undergraduate characteristics (commuter, first-generation, transfer, impairment, and full-time enrollment status, first-year college grades, hours employed, and financial stress) and perspectives (campus belonging, academic major belonging, and institutional satisfaction). After controlling for age and other influential covariates, results show that student military experience significantly correlates with commuter status, first-generation status, physical and cognitive impairment, full-time enrollment, fewer employment hours, and less financial stress, characteristics conceptualized as facets of field social position. Military experience also significantly correlates with lower campus belonging, lower academic major belonging, and lower institutional satisfaction, perspectives conceptualized as field constraints.

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Over the last two decades, the number of undergraduate student military service members/veterans (SSM/Vs)—those who are on active U.S. military duty, in the Reserves or National Guard, or retired/discharged veterans (e.g., Barry et al., 2014)—grew exponentially (e.g., Hodges et al., 2022). In addition to their technical, problem-solving, and communication skills, available data suggest that SSM/Vs nationwide are older, more often physically and cognitively impaired, and more often from disadvantaged socioeconomic backgrounds than traditionally aged college students (Borsari et al., 2017; Cate et al., 2017). Because most SSM/Vs are supported by significant public GI bill spending and, as a group, comprise multiple identities that diversify 4-year universities, their academic success is critical.

SSM/Vs, however, face many obstacles in college, including commuter, transfer, and first-generation status, off-campus employment, and family responsibilities—all common among adult, "nontraditional" college students aged 25 years and older (e.g., Bean & Metzner, 1985; Molina & Morse, 2015). Other challenges are specific to SSM/Vs. Health-related difficulties can negatively influence SSM/V academics and campus navigation (e.g., Barry et al., 2014; Elliot et al., 2015) while military-to-civilian sociocultural transitions can be a source of strain as well (e.g., McAndrew et al., 2019). Social marginalization, in particular, often manifests itself through troubled communication between SSM/Vs and peers and faculty (e.g., DiRamio et al., 2008); widely held stereotypes of SSM/Vs as violent, psychologically damaged, and intellectually inferior (e.g., Benbow & Lee, 2022; Borsari et al., 2017); and SSM/V feelings of loneliness and alienation on campus (e.g., Elliott et al., 2011; Rumann & Hamrick, 2010).

Still, because of continuing gaps in national data on SSM/Vs (see Cate, 2014), few recent studies have consistently or satisfactorily shed light on how U. S. military experience itself—separated not only from age but also from other significant nontraditional student characteristics like commuter or parental status (Bergman et al., 2014; Dill & Henley, 1998)—statistically associates with student attributes or psychological viewpoints that strongly influence, and reflect, student university experiences. While scholars have quantitatively compared samples of military-affiliated students and civilian students, these studies are typically focused on SSM/V health (e.g., McGuffin et al., 2019), based on secondary data (Werum et al., 2020), or include relatively small proportions of SSM/Vs in their samples (Durdella & Kim, 2012). Some limit analyses to former students (Steidl et al., 2020) or single institutions (Morrill & Somers, 2020) and cannot control for a variety of factors known to influence nontraditional student college trajectories (Barry et al., 2021). Further, few comparative studies have taken place after the disruption of COVID-19, a critical demarcation point in higher education for SSM/Vs and other marginalized college students (Lang, 2021; Raaper et al., 2022). A clearer understanding of how SSM/V

characteristics and perspectives are unique could not only help scholars continue to build a base of knowledge focused on SSM/Vs, but also further inform university SSM/V inclusivity efforts.

This study uses a quantitative correlational analysis of student surveys (n=1,255), from SSM/Vs and civilian students in four different public universities, to investigate associations between student experience in the U.S. military and important "characteristics" (commuter, first-generation, transfer, impairment, and full-time enrollment status, first-year college grades, hours employed, and financial stress) and "perspectives" (student feelings of campus belonging, academic major belonging, and institutional satisfaction) associated with university success. We frame our analysis using field theory (Bourdieu & Wacquant, 1992; Martin, 2011) to conceptualize differences between SSM/V and civilian student experiences. Within this context we address two research questions (RQs):

RQ1. How, if at all, does military experience correlate with important undergraduate student characteristics commonly linked to university success, including commuter, first-generation, transfer, impairment, and full-time enrollment status, first-year college grades, hours employed, and financial stress?

RQ2. How, if at all, does military experience correlate with important undergraduate student perspectives related to university success, including feelings of campus belonging, academic major belonging, and institutional satisfaction?

To provide background, we first review research on the characteristics of adult, nontraditional students in higher education. Next, we look at research on SSM/V university experiences and challenges that extend beyond their status as adult students. We then review past studies that have explicitly compared SSM/Vs and civilian university students, outline methodological gaps in the literature, and finish by pointing out the importance of comparing specific characteristics and perspectives between SSM/Vs and civilians.

Literature

SSM/Vs as Nontraditional Students

Since 2001, nearly 3 million U.S. service members have been deployed to military conflicts abroad (Bilmes, 2021). Resulting postsecondary education GI bill benefits for service members—which cover tuition, housing, and other educational expenses—spurred rapid growth in the SSM/V university population through the first and second decades of the 21st century. Hundreds of thousands of students continue to use these benefits each year (Wenger & Ward, 2022). While national data on SSM/Vs are sparse (see Cate, 2014, pp. 10–18), analyses suggest these students have an average age in their early 30s and that a plurality attend 4-year public colleges and universities (Borsari et al., 2017; Cate et al., 2017).

Because they are usually older than their traditional student peers, SSM/Vs face many of the same challenges as other adult or "nontraditional" college learners, typically defined as students aged 25 and older (Markle, 2015). Research has shown not only that nontraditional students have a more difficult time balancing educational and personal responsibilities (Gilardi & Guglielmetti,

2011), but also often have higher levels of financial stress than traditional students, likely due to overlapping academic, caregiving, and job obligations (Moore et al., 2020). Their decision to enroll later in life, and the financial and personal burdens this may place on the family, can also be a source of anxiety (MacDonald, 2015).

Data suggest adult learners are more often first-generation, transfer, part-time, and commuter students (Dill & Henley, 1998; Osam et al., 2017), experiences that can inhibit college persistence. Compared to students whose parents earned college degrees, first-generation students often have fewer support systems and cannot rely on tacit academic or cultural knowledge of college to navigate campus, leading to feelings of uncertainty and isolation (e.g., Pascarella et al., 2004). Research has consistently indicated that first-generation students are less likely to earn degrees than their continuing-generation peers (e.g., Cataldi et al., 2018; Ishitani, 2006). Transfer students, similarly, often experience culture shock and stigma with the switch to a new institution; studies indicate that transferring is associated with both a longer time-to-degree and a lower likelihood of graduation (e.g., Hu et al., 2018; Santos Laanan, 2007). Commuting students, many of whom attend college part-time because of childcare and job obligations, typically cannot spend as much time on their studies and can only be on campus for classes, limiting their ability to socially integrate (Chen et al., 2020; Holloway-Friesen, 2018).

Additionally, adult students often enter college after years-long breaks from formal civilian schooling, forcing many to relearn study skills and content that may have eroded over time (Bean & Metzner, 1985; DiRamio et al., 2008). The resulting sense of academic unpreparedness increases the fear and anxiety many adult students already feel in taking classes with younger and seemingly better-equipped peers (e.g., Ross-Gordon, 2011). Previous research also shows that SSM/Vs, like other adult university students, often find themselves navigating educational institutions designed for much younger students (e.g., Borsari et al., 2017; Hodges et al., 2022).

Challenges Linked to Military Experience

Military experience introduces further challenges for SSM/Vs, many of whom are simultaneously navigating university enrollment as well as the difficult transition from military to civilian life. Previous literature highlights various health-related issues that may impede SSM/V academic success—including emotional distancing, military sexual trauma, psychological and physical injuries, and substance abuse (e.g., Barry et al., 2014; Hoglund & Schwartz, 2014)—which often result in challenges accessing college resources and social relationships, reduced self-efficacy, and discrimination on campus (e.g., Cech, 2023; Kutscher & Tuckwiller, 2019). Notably, post-traumatic stress disorder, traumatic brain injury, and associated impairments have been found to adversely affect SSM/Vs' academic performance as well as their perceptions of social support on campus (e.g., Bryan et al., 2014).

Research also indicates that SSM/Vs can encounter administrative challenges in universities. Mid-semester activations among active duty, Reserve, and/or Guard members can interrupt academic progress and social integration, potentially necessitating repeated transitions into and out of the university (McAndrew et al., 2019; Rumann & Hamrick, 2010). Moreover, despite entering university with extensive and rigorous military training, SSM/Vs often find the process

of transferring credit for their military work to be time-consuming and demoralizing, undermining their knowledge and expertise (e.g., Benbow & Lee, 2022). Additionally, while GI benefits enable many SSM/Vs to pursue higher education with less financial burden than typical adult students (Moore et al., 2020), navigating the necessary bureaucratic procedures can be stressful (e.g., Ackerman et al., 2009; Harris et al., 2022). The anxiety associated with benefit administration is often exacerbated by the multitude of independent decisions SSM/Vs must make in the university environment as compared to the military (Gati et al., 2013).

Importantly, SSM/Vs also face considerable sociocultural mismatches when they transition from the military—a traditionally conservative environment characterized by structure, highly regulated etiquette, and camaraderie—to more liberal university settings that prioritize individualism and self-exploration (Kirchner et al., 2014; Lim et al., 2018). This often leads to misunderstandings between SSM/Vs and their peers or faculty members (e.g., DiRamio et al., 2008) that reinforce stereotypes of SSM/Vs as damaged, violent, or intellectually inferior (Benbow & Lee, 2022; Motl et al., 2022) and lead to feelings of alienation on campus (e.g., Elliott et al., 2011; Rumann & Hamrick, 2010). The social aspect of this transition is particularly critical for SSM/Vs, who tend to report lower levels of social support (Whiteman et al., 2013) and a diminished sense of campus belonging (Barry et al., 2021) compared with civilian counterparts. It remains unclear whether these key aspects of the college experience are correlated with student military experience, however, especially when other adult student characteristics like first-generation, commuter, or part-time enrollment status are taken into account.

Previous Research Comparing SSM/Vs to Civilian Students

Numerous studies have empirically compared military-affiliated and civilian college students. Again, much of this work has been in the health field, and has suggested that SSMVs are more susceptible to negative consequences stemming from mental and physical health issues compared with civilian students (e.g., Blosnich et al., 2015; Teeters et al., 2020), with some important caveats. SSMVs are not as likely to seek mental health assistance, feel greater treatment-related stigma, are at greater risk for neglecting positive health behaviors, and, among women SSM/Vs, receive less health information on critical issues such as depression, relationship violence, and stress reduction compared to civilian students (Albright et al., 2019, 2020; Currier et al., 2017). Additional comparative studies indicate, however, that SSMVs exhibit better academic and personal-emotional adaptation (McGuffin et al., 2019) as well as a lower likelihood of feeling overwhelmed than civilian students (Cleveland et al., 2015).

Scholars have comparatively explored other aspects of SSM/V collegiate experience as well. Data on what we call SSM/V "characteristics" reliably shows that SSM/Vs are older and more often male than their civilian peers due to military demographics and service terms (Blosnich et al., 2015; Campbell & Wescott, 2019; Durdella & Kim, 2012; Kim & Cole, 2013). Other scholars have suggested that SSM/Vs are more likely to be first-generation students (Campbell & Wescott, 2019; Kim & Cole, 2013) and have lower college GPAs (Durdella & Kim, 2012). These findings, though, are not consistent across studies (Blosnich et al., 2015; Campbell & Wescott, 2019; Durdella & Kim, 2012; Fernandez et al., 2019; Kim & Cole, 2013).

Additional comparative work has also looked at SSM/V college behaviors and career trajectories. Studies suggest that SSM/Vs visit advisors and faculty less frequently than civilian students but are more likely to be positively influenced by these interactions (Southwell et al., 2018). Like other adult students, SSM/Vs have a stronger preference for coursework-related campus activities than college life activities (Bean & Metzner, 1985; Kim & Cole, 2013). Other studies have found that SSM/Vs are more likely than their civilian peers to complete science, technology, engineering, and mathematics (STEM) degrees and pursue STEM professions (Steidl et al., 2020; Werum et al., 2020) and that SSM/Vs as a group out-earn their civilian counterparts after obtaining bachelor's degrees (Steele et al., 2018). SSM/V college "perspectives" have also been comparatively explored, though, again, findings are not consistent. Research by Durdella and Kim (2012) showed no significant difference between SSM/Vs and civilian students with regards to feelings of campus belonging, or a student's sense of affiliation with their campus community. More recent studies, though, have indicated that SSM/Vs not only feel less emotional support (Whiteman et al., 2013), but also lower levels of campus belonging (Barry et al., 2021) than civilian college students.

Gaps in Comparative Studies

While these and other studies have made headway, previous comparative work has several methodological drawbacks. Much of the existing literature relies on secondary data collected within larger studies like the American Community Survey (Steidl et al., 2020; Werum et al., 2020), the Healthy Minds Study (Barry et al., 2021), or the National College Health Assessment (Albright et al., 2019; Blosnich et al., 2015; Cleveland et al., 2015). Although the larger sample sizes in these studies enhance their external validity, their sampling and data collection choices are not necessarily designed with comparative SSM/V research in mind (Blosnich et al., 2015; Johnston, 2014), preventing researchers from delineating theoretically justified comparison groups and control variables (Schjoedt & Bird, 2014). This can limit the power to control for attributes that apply to both SSM/Vs and the wider adult student population—variables like first-generation status, commuter status, or transfer status—which means observed differences between SSM/V and civilian students may not be related to military experience (McGuffin et al., 2019). Previous comparative SSM/V studies based on primary data have had their own limitations. Often, these studies focus on students in a single university (e.g., Morrill & Somers, 2020), universities within a specific geographic location (McGuffin et al., 2019; Southwell et al., 2018; Whiteman et al., 2013), or universities within one state (Durdella & Kim, 2012). These studies also typically have smaller SSM/V sample sizes, which impose power constraints on the use of control variables (e.g., Niu et al., 2022).

Varying methodological approaches among existing comparative studies also make them more difficult to use as a foundation for further investigation. One example is the lack of an accepted definition of student military affiliation. While many studies use our definition of "SSM/Vs" to account for all students with military experience (e.g., Barry et al., 2021; Fernandez et al., 2019; Whiteman et al., 2013), a number of scholars include only "student veterans" who previously served in the military (e.g., Durdella & Kim, 2012). Some limit their analyses to respondents who have already finished college and are reporting their experiences

retrospectively (Steele et al., 2018; Werum et al., 2020). Other work samples student veterans as well as family members who have not served in the military but who are using GI higher educational benefits to attend college (Oswald et al., 2019). Combined with the fact that little SSM/V/civilian comparative work has taken place since the COVID-19 pandemic—an event that scholars suggest has shifted campus experiences for marginalized college students (e.g., Raaper et al., 2022)—the comparative literature would benefit from an up-to-date, theoretically-grounded, and methodologically consistent study focused on recent students who have and do not have military experience.

Comparing SSM/Vs and Civilian Adults on Important Characteristics and Perspectives

Few studies have comprehensively focused on comparing SSM/Vs and civilian adult students on fundamental attributes and beliefs—which we label "characteristics" and "perspectives"—that research shows are important to university experience and success. This includes early college grades, which have been shown to predict college academic success (Crisp et al., 2009); first generation, transfer, and commuter status; physical and cognitive impairment; full- and part-time enrollment; outside employment; and financial stress (Bean & Metzner, 1985; Chen et al., 2020; Gilardi & Guglielmetti, 2011; Dill & Henley, 1998; Kutscher & Tuckwiller, 2019; Markle, 2015; Moore et al., 2020; Pascarella et al., 2004). Previous work has suggested military-affiliated students have lower college GPAs (Durdella & Kim, 2012), more often report cognitive, sensory, and mobility disabilities than civilian college students (Cech, 2023; Kutscher & Tuckwiller, 2019), are more likely to attend school part-time (Blosnich et al., 2015; Campbell & Wescott, 2019), and are more likely to be first-generation students (Campbell & Wescott, 2019; Fernandez et al., 2019; Kim & Cole, 2013). Again, however, these findings come from studies using different methodologies and with various assemblies of student respondents.

Scholars would further benefit from better understanding how military experience connects or not to campus belonging, academic major belonging, and institutional satisfaction. Defined as a student's subjective evaluation of their affiliation and membership in their campus community (Hurtado & Carter,1997), campus belonging has been shown to play a crucial role in marginalized students' college persistence (Strayhorn, 2018). Academic major belonging, or a student's feelings of connectedness to the instructors, students, and staff in their undergraduate major community, has been associated with positive feelings about college learning experiences as well as effort, participation, and positive emotional engagement in classes (Wilson et al., 2015). Institutional satisfaction—a student's confidence in and contentment with their university—is also a key predictor of college persistence (Schreiner & Nelson, 2013). Bean and Metzner (1985) argue that this factor is especially crucial for adult learners, who often face extended absences from formal education, off-campus responsibilities, and other unique challenges on campus that can lead to frustration. These gaps, we believe, present opportunities to contribute to the literature on SSM/Vs.

Conceptual Frame

Based on SSM/V research literature (e.g., Lim et al., 2018; McAndrew et al., 2019) we view military experience, as well as SSM/V transitions from the military into the university, as

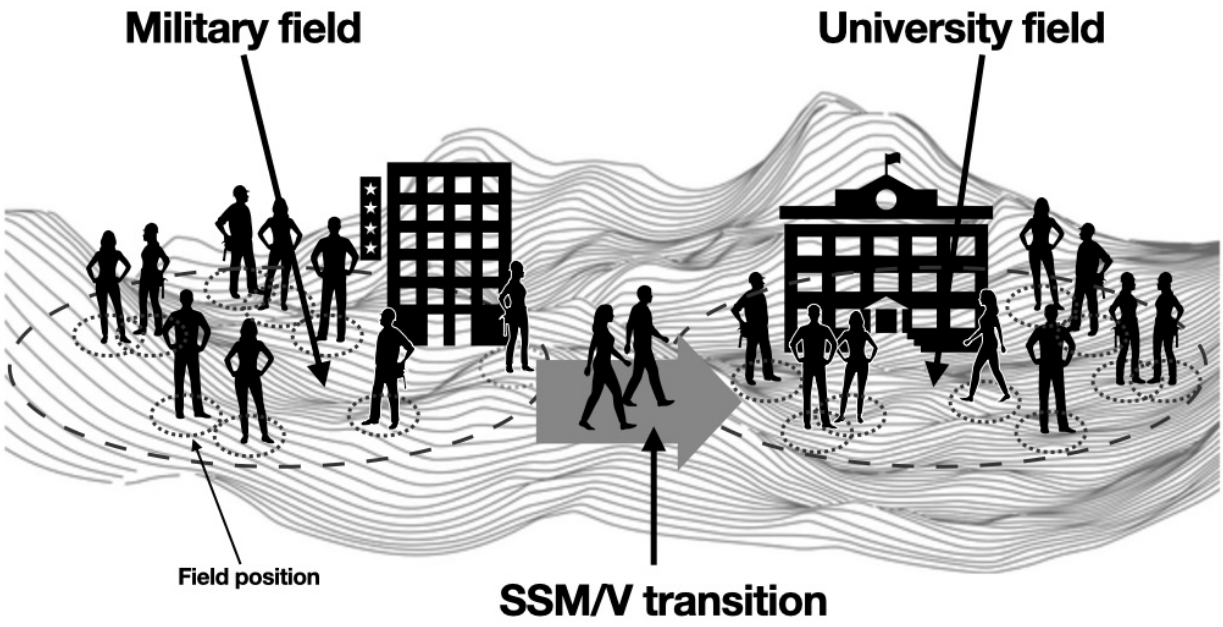
significant influences on college experience in ways that cannot be connected only to age or other common nontraditional student characteristics (e.g., first-generation, commuter, or transfer status). We use field theory to conceptualize how SSM/Vs move between these two cultural spheres as well as how their background and experiences may make them view their university environments differently than undergraduate students who have not been in the military.

Perceived as a symbolic plain of interpersonal exchange, a "field" is a bounded social and cultural order consisting of a network of "positions"—or codependent, hierarchical roles—in which actors pursuing similar resources are drawn together (Martin, 2011). Whether a field include writers of American fiction, CEOs of social media companies, a nuclear family, or undergraduate students within a university, it can be viewed as a unique cultural constellation with its own values and rules (Bourdieu & Wacquant, 1992). Each field is therefore a dynamic and contested space as well as a set of beliefs and norms ingrained in its members. Group members acting in a field are enculturated with particular habits, ways of thinking, tastes, and even postures that they carry with them to other fields through life. These dispositions, in turn, influence one's experiences and perspectives in other fields (Ferrare & Apple, 2015).

Importantly, while the "gravity" of any given field extends or constricts possibilities for action depending on the position one inhabits (Bourdieu & Wacquant, 1992, p. 17), individuals still operate creatively and intuitively in pursuing their goals. Field elements exhibit different kinds of "demand character" (Lewin, 1933), also known as "affordances" (Gibson, 1986), that actors subjectively interpret as either encouraging or discouraging specific behaviors. In this way, individual motivations can be seen as a product not only of their topographical field position vis-à-vis others—including their background, status, and experiences—but also how different aspects of their social environment impel feelings and actions (Martin, 2011, pp. 166–169). A model of this process, in a field context, is displayed in Figure 1.

This framework provides a way to empirically ground SSM/V experiences in the military ("military field") and the university ("university field"), which each have their own sets of hierarchies and norms that make a social imprint on the people operating within them. Field theory also helps us specify differences between SSM/V and civilian student university experiences both in relation to their place in local institutional environments as well as their perceptions of those environments. From a field perspective, then, our first research question asks whether students with and without military field experience occupy different university field *positions* mapped through various facets of adult student marginalization ("characteristics") including first-generation, commuter status, etc. (e.g., Chen et al., 2020; Dill & Henley, 1998; Markle, 2015; Pascarella et al., 2004). These possible differences have implications for how students' view *affordances* or constraints in their university field that impel (or not) persistence. Our second research question therefore focuses on whether SSM/V field positions offer a unique view of the university environment that may lead to judgements ("perspectives")—feelings of campus belonging, academic major belonging, and institutional satisfaction (e.g., Bean & Metzner, 1985; Strayhorn, 2018)—that have been shown to spur student action.

Figure 1. Field Theoretical Model of SSM/V Transition from Military to University Field



The diagram shows a topographical plain with two spheres. The sphere on the left is labeled “Military field” and the sphere on the right “University field.” Arrayed within each field are several figures, each standing in spheres labeled “Field position.” Between the spheres are two figures walking from the Military field sphere to the University field sphere over an arrow, pointing right, labeled “SSM/V transition.”

Methods

This is a cross-sectional, quantitative correlational study. We use multiple regression analyses to test the correlation between independent and dependent variables gathered through student surveys. This design is necessary to answer research questions focused on the statistical association of military experience with student characteristics and perspectives across a sample of participants while controlling for attributes SSM/Vs have in common with adult students without military experience. Data were gathered as part of a wider national study on SSM/V and civilian student experiences in university academic fields.

Sampling

Data collection took place in spring 2023 at four public U.S. universities—referred to here as University 1, University 2, etc.—chosen for their geographic and demographic diversity. This “maximal variation” sampling approach (e.g., Creswell, 2012) was designed to build a participant sample from a variety of universities to better represent different 4-year public institutional contexts in which a plurality of SSM/Vs are enrolled. University 1 is a large, majority-minority, HSI in a military-heavy region of the Southwest, enrolling almost 30,000 undergraduates; University 2 is a predominantly White institution (PWI) in the South enrolling 19,000 undergraduates; University 3 is a majority minority Hispanic-serving institution (HSI) in the Mountain West enrolling 16,000 students; and University 4 is a small, regional PWI in the

Midwest enrolling about 7,000 students. Universities 1 and 3 have "Doctoral University: Very High Research Activity" designations while Universities 2 and 4 have "Doctoral University: High Research Activity" Carnegie designations.

Within each of these institutions, we used a purposeful, nonprobability sampling procedure to recruit SSM/Vs by asking veteran service directors to email all identified undergraduate SSM/Vs study information and a link to our online survey. After SSM/V surveys were collected, the research team analyzed the age distribution of each university's SSM/V sample. Using non-military student email information provided by each university, the research team then sent recruitment emails to randomized subsets of non-military students in each age category, aiming for similar age distributions among SSM/Vs and non-military students in each institution. The corpus ultimately includes survey responses from 531 SSM/Vs and 724 civilian undergraduate students (n=1,255). All survey respondents received a $20 online gift card for participating. Sample attributes are displayed in Table 1.

Survey Instrument

The research team designed, piloted, and administered an online Qualtrics survey to collect student data. The final instrument, which took about 15 minutes to complete, included items asking about eight student "characteristics" (e.g., first-generation status). These variables act as dependent variables for *RQ1* regression analyses as well as independent control variables in *RQ1* and *RQ2* regression analyses. The survey also included items gathering data on three student "perspectives" (e.g., campus belonging). These measures act as dependent variables for *RQ2* analyses. Demographic information (e.g., military status, gender, race/ethnicity, age), which acts as additional independent control variables for *RQ1* and *RQ2* regressions, was also collected in the survey.

Characteristics

Several survey items gathered information on respondent characteristics, defined here as adult student background and socioeconomic-oriented attributes associated in the literature with university experiences. We theorize these characteristics as facets of student university field position (e.g., Ferrare & Apple, 2015). These included continuous variables measuring students' self-reported first-year college GPAs, employment hours, how far students commuted to campus, as well as binary variables measuring student first-generation status, transfer status, full-time or part-time enrollment, and impairment (Bean & Metzner, 1985; Chen et al., 2020; Crisp et al., 2009; Dill & Henley, 1998; Kutscher & Tuckwiller, 2019; Markle, 2015; Pascarella et al., 2004). Another characteristic shown to be important to adult student college experiences, financial stress (Baker, 2019; Gilardi & Guglielmetti, 2011), was measured as a continuous variable using Baker's (2019) scale. These items asked students to express their level of agreement with three statements on a 5-point Likert scale: "I feel stressed about my personal finances in general," "I worry about being able to pay my current monthly expenses," and "I worry about having enough money to pay for school." These scale items showed moderate internal consistency ($\alpha = .85$).

Table 1. Descriptive Statistics for Survey Sample (*n*=1,255)

Measure	SSM/Vs (*n*=531)		Civilian Students (*n*=724)	
	N	%	N	%
Gender				
Women	145	27.4	470	65.0
Men	377	71.1	221	30.6
Transgender	5	0.9	11	1.5
Nonbinary	3	0.6	21	2.9
Race/Ethnicity				
American Indian or Alaska Native	29	5.5	40	5.5
Asian or Asian American	27	5.1	55	7.6
Black or African American	56	10.6	82	11.4
Hispanic or Latino	168	31.7	257	35.6
Native Hawaiian or Pacific Islander	5	0.9	8	1.1
White or Caucasian	316	59.6	396	54.9
White Students[1]	263	49.6	325	45.1
Students of Color	267	50.4	396	54.9
Undergraduate Major				
Arts and Humanities	56	10.5	108	14.9
Biological and Life Science	44	8.3	57	7.9
Business	52	9.8	55	7.6
Education	7	1.3	51	7.0
Engineering	73	13.7	59	8.1
Finance	46	8.7	37	5.1
Health	52	9.8	74	10.2
Math and Computer Science	47	8.9	33	4.6
Physical Science	12	2.3	17	2.3
Social Science	66	12.4	147	20.3
Other	72	13.6	84	11.6
Undeclared	4	0.8	2	0.3
Transfer Students	419	78.9	533	73.6
Service Status				
Discharged or Retired Veteran	371	69.9	--	--
In Reserves or National Guard	128	24.1	--	--
Active Duty	51	9.6		
First-Generation Students[2]	259	49.8	314	43.7
Impaired Students	186	35.0	159	22.0
Institution				
University 1	283	53.3	323	44.6
University 2	106	20.0	172	23.8
University 3	67	12.6	130	18.0
University 4	75	14.1	99	13.7
Mean Age	32.1 (SD = 8.7)		30.8 (SD = 9.3)	

[1] "White Students" include students who only identified as White or Caucasian. "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.
[2] "First-generation students" are those reporting that their parents/guardians had not obtained a college degree.

Perspectives

Other survey items gathered data on student affective perspectives linked in the literature to feelings of university fit and persistence. These perspectives are theorized as perceived affordances in university fields (Gibson, 1986). Data measuring student campus belonging, defined as a student's cognitive assessment of their identification, affiliation, and membership in their campus community, were collected with a seminal 3-item battery (Hurtado & Carter, 1997). Using a 5-point Likert scale, participants were asked to express their level of agreement with three statements: "I see myself as part of the campus community," "I feel that I am a member of the campus community," and "I feel a sense of belonging to the campus community." We used the standardized average score of these responses as a continuous dependent variable. The scale showed strong internal consistency ($\alpha = .97$).

Data measuring student academic major belonging, defined as a student's feelings of commitment, engagement, and connectedness to their undergraduate major community (e.g., instructors, students, departmental staff) (Wilson et al., 2015), were collected using a 4-item battery modified from Anderson-Butcher & Conroy (2002). Students were asked to express their level of agreement with four statements on a 5-point Likert scale: "I am committed to this major's community," "I am supported in this major's community," "I am accepted in this major's community," and "I am a part of this major's community." A standardized average score of these responses was used as a continuous dependent variable. Items also showed strong internal consistency ($\alpha = .91$).

Data measuring institutional satisfaction, defined as a student's degree of commitment and satisfaction with their university, come from a scale of three items adapted from previous surveys: "How confident are you that this is the right university for you?" (Davidson et al., 2009), "Please rate your level of satisfaction with your overall experience at this university?" and "Please rate your level of satisfaction with the education you have received at this university?" (Boyd et al., 2022). The first question asked students to specify confidence on a 1-5 scale with 1=Not at all confident and 5=Very confident. The next two questions asked students to specify satisfaction on a 1-5 scale with 1=Very dissatisfied and 5=Very satisfied. Like belonging measures, we used the standardized average score of these responses to represent institutional satisfaction. Items showed moderate internal consistency ($\alpha = .85$).

Demographics

The survey also contained items asking students for information that we used to create a focal independent variable and control variables representing student field positions. The focal independent variable, military experience, is a binary measure based on (1) whether students received an email from each institution's veteran service director (sent only to listed SSM/Vs) as well as (2) student self-reports regarding whether they were currently or had ever been members of the United States military. For the purposes of this study, cadets (i.e., Reserve Officers' Training Core members) and those who had not completed their basic/initial training did not qualify as having served in the U. S. military. Independent control variables also included measures for the all-important variable of age as well as gender, race/ethnicity, whether students

had dependents, student academic majors (categorized as a science, technology, engineering, or mathematics [STEM] major or not, see Dika & D'Amico, 2016), and institution (with University 1 as the reference).

Importantly, seven of our nine "characteristic" variables—first generation status, transfer status, first-year college GPA, impairment status, full-time or part-time enrollment, hours employed, and financial stress—act as controls in *RQ1* and *RQ2* analyses. While often interrelated, the literature indicates that these variables have an outsized influence on adult student university experiences (e.g., Bean & Metzner, 1985; Chen et al., 2020; Dill & Henley, 1998; Markle, 2015; Moore et al., 2020; Pascarella et al., 2004). Their inclusion in each regression model therefore helps us further specify how, if at all, student military experience correlates with these characteristics and perspectives. This, in turn, allows us to conceptually map in more detail whether and how the field positions and affordances that mark SSM/V university experience are unique.

Data Analysis

Using survey data we answer *RQ1* by fitting eight ordinary least squares (OLS) regression models to examine whether and how the independent binary military experience variable, with the addition of control variables, associates with the student characteristics of commuter status, first-generation status, transfer status, first-year college GPAs, impairment status, full-time enrollment, hours employed, and financial stress as dependent variables. We answer *RQ2* by estimating the OLS regression models of students' perspectives of campus belonging, academic major belonging, and institutional satisfaction as dependent variables on individual military status and the same set of control variables used in *RQ1* models. Full regression results are presented in tables answering each research question. We conducted data analyses using R and Stata.

Results

RQ1. How, if at all, does military experience correlate with important undergraduate student characteristics commonly linked to university success?

Results on student characteristics are displayed in Table 2. Findings show that student military experience was significantly correlated with commuter status ($p < .05$) and first-generation status ($p < .05$). Those with military experience were also more likely to report physical and/or cognitive impairments ($p < .001$), were more often enrolled full-time ($p < .001$), worked significantly fewer hours ($p < .01$) and reported significantly lower levels of financial stress ($p < .001$). Regression results show that student military experience is positively correlated with transfer status and first-year college grades, but these correlations are not statistically significant.

Among covariates, student age significantly predicts six of the eight characteristics. Being older significantly associates with first-generation status, transfer status, impairment status, more often being enrolled part-time ($p < .001$), less financial stress ($p < .01$), and commuter status ($p < .05$). Age is positively associated with first-year college grades and hours employed, though

Table 2. Regression of Undergraduate Student Attributes on Significant Characteristics

	Commuter status	First generation status	Transfer status	First-year college GPA	Impairment status	Full-time enrollment	Hours employed	Financial stress
Military experience	**0.38***	**0.28***	**0.20**	**0.13**	**0.65*****	**0.68*****	**-0.58****	**-0.65*****
	(0.19)	**(0.14)**	**(0.17)**	**(0.09)**	**(0.16)**	**(0.18)**	**(0.18)**	**(0.07)**
Male	-0.28	-0.09	-0.17	-0.32***	-0.10	0.18	0.21	-0.16*
	(0.18)	(0.13)	(0.16)	(0.08)	(0.15)	(0.16)	(0.17)	(0.07)
White	-0.00	-1.05***	-0.15	0.41***	0.39**	-0.06	-0.31+	0.04
	(0.18)	(0.13)	(0.16)	(0.08)	(0.15)	(0.16)	(0.17)	(0.07)
Age (log)	0.79*	1.17***	3.33***	0.25	1.47***	-2.28***	0.29	-0.42**
	(0.37)	(0.28)	(0.42)	(0.18)	(0.29)	(0.32)	(0.35)	(0.14)
STEM major	0.10	-0.07	-0.07	0.05	0.19	-0.07	-0.30+	-0.05
	(0.16)	(0.12)	(0.15)	(0.08)	(0.13)	(0.15)	(0.15)	(0.06)
Dependent status	0.42*	0.30*	0.36+	0.01	-0.15	0.03	0.20	-0.05
	(0.19)	(0.15)	(0.21)	(0.09)	(0.16)	(0.17)	(0.19)	(0.08)
First generation status	-0.03		0.26+	0.02	-0.12	0.21	0.15	-0.03
	(0.17)		(0.15)	(0.08)	(0.14)	(0.15)	(0.16)	(0.07)
Transfer status	0.46*	0.28+		0.11	0.17	-0.11	0.11	0.14+
	(0.19)	(0.15)		(0.09)	(0.17)	(0.19)	(0.19)	(0.08)
First-year college GPA	0.10+	0.01	0.07		-0.03	0.18***	-0.03	-0.11***
	(0.06)	(0.05)	(0.05)		(0.05)	(0.05)	(0.06)	(0.02)
Impairment status	-0.02	-0.13	0.15	-0.05		0.18	-0.54**	0.18*
	(0.18)	(0.14)	(0.17)	(0.09)		(0.17)	(0.17)	(0.07)
Full-time status	-0.34+	0.22	-0.04	0.33***	0.17		-1.34***	0.04
	(0.20)	(0.15)	(0.19)	(0.09)	(0.17)		(0.19)	(0.08)
Hours employed	0.03	0.02	0.01	-0.01	-0.07**	-0.18***		0.05***
	(0.03)	(0.02)	(0.03)	(0.01)	(0.02)	(0.03)		(0.01)
Financial stress	0.12	-0.02	0.10	-0.16***	0.16**	0.02	0.29***	
	(0.07)	(0.06)	(0.07)	(0.03)	(0.06)	(0.07)	(0.07)	
Institution								
University 2	1.25***	0.31+	-0.43*	-0.09	-0.35+	-0.13	0.41*	0.12
	(0.21)	(0.16)	(0.19)	(0.10)	(0.18)	(0.25)	(0.21)	(0.08)
University 3	-0.10	0.20	-0.65**	0.05	0.03	-0.54**	0.37	-0.08
	(0.24)	(0.18)	(0.21)	(0.11)	(0.19)	(0.20)	(0.23)	(0.09)
University 4	0.39	-0.11	-0.44*	-0.19	-0.12	-0.44	0.45+	-0.11
	(0.25)	(0.20)	(0.21)	(0.12)	(0.21)	(0.26)	(0.24)	(0.10)
N	1216	1232	1232	1232	1232	1232	1232	1232

Note: + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$; standard errors are in parentheses

these correlations are not significant. Other control variables do not associate as regularly with the chosen characteristics, though transfer status, having at least one dependent child, impairment, being enrolled part-time, and working more hours correlate with several other characteristics that have proven to be academic obstacles in previous research (e.g., Bean & Metzner, 1985; Chen et al., 2020).

RQ2. How, if at all, does military experience correlate with important undergraduate perspectives related to university success?

Table 3. Regression of Undergraduate Student Attributes on Significant University Perspectives

	Campus belonging	**Academic major belonging**	**Institutional satisfaction**
Military experience	**-0.41*** **	**-0.23*** **	**-0.12***
	(0.07)	(0.06)	(0.05)
Male	-0.07	-0.01	-0.13**
	(0.06)	(0.06)	(0.05)
White	-0.14*	-0.10+	-0.12*
	(0.06)	(0.06)	(0.05)
Age (log)	0.15	0.21+	0.34***
	(0.13)	(0.12)	(0.10)
STEM major	-0.04	-0.05	-0.07
	(0.06)	(0.05)	(0.04)
Dependent status	-0.04	0.03	0.13*
	(0.07)	(0.06)	(0.05)
First generation status	0.02	-0.02	0.01
	(0.06)	(0.05)	(0.05)
Transfer status	0.11	0.11+	0.09
	(0.07)	(0.06)	(0.05)
First-year college GPA	0.00	0.05**	0.02
	(0.02)	(0.02)	(0.02)
Impairment status	-0.12+	-0.17**	-0.12*
	(0.07)	(0.06)	(0.05)
Full-time enrollment	0.06	0.03	0.04
	(0.07)	(0.06)	(0.05)
Hours employed	-0.01	-0.01	0.02*
	(0.01)	(0.01)	(0.01)
Financial stress	-0.06*	-0.06**	-0.08***
	(0.03)	(0.02)	(0.02)
Institution			
University 2	-0.02	0.14*	0.09
	(0.08)	(0.07)	(0.06)
University 3	-0.08	-0.04	-0.06
	(0.09)	(0.08)	(0.07)
University 4	0.10	0.14+	-0.15*
	(0.09)	(0.08)	(0.07)
N	1232	1226	1232

Note: + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$; standard errors are in parentheses

Table 3 displays regression results for student perspectives—theoretically representing perceived affordances inhering in university field practices and interactions. Results show that student military experience is significantly associated with lower feelings of campus belonging ($p < .001$) and lower feelings of belonging in one's academic major community ($p < .001$). Military experience is also significantly associated with lower levels of institutional satisfaction ($p < .05$).

Control variables show varying utility in predicting these perspectives. Though *RQ1* results indicate that being older associates with several challenging positional characteristics, student age significantly predicts *higher* institutional satisfaction ($p < .001$) and marginally predicts *more* of a sense of belonging in one's academic major ($p < .10$). Age positively correlates with campus belonging as well, though the association is not significant. Higher levels of financial stress, notably, significantly predict lower feelings of campus belonging ($p < .05$), academic major belonging ($p < .01$), and institutional satisfaction ($p < .001$). Identifying as a White student significantly associates with lower feelings of campus belonging ($p < .05$) and institutional satisfaction ($p < .01$) and marginally associates with academic major belonging ($p < .10$). Cognitive and/or physical impairment negatively and significantly correlates with feelings of major belonging ($p < .01$) and institutional satisfaction ($p < .05$) and marginally correlates with lower feelings of campus belonging ($p < .10$).

Discussion

With survey data from SSM/Vs and civilian undergraduate students across four public universities, this study used multiple regression analysis to test correlations between student military experience and important undergraduate characteristics and perspectives linked to student university success. After controlling for age and several other covariates, results show that student military experience significantly correlates with characteristics that pose a challenge in college as well as a few benefits. Results also show that student military experience significantly predicts negative campus- and institution-related perspectives, even when controlling for multiple factors linked to obstacles adult students face in college.

Comparative Opportunities and Challenges for SSM/Vs

Some results here speak to student traits and viewpoints that have been explored in other studies. Our findings confirm previous research suggesting SSM/Vs are more likely to be first-generation college students and more often report cognitive, sensory, and mobility impairments, likely due to injuries sustained during their military service (Borsari et al., 2017; Fernandez et al., 2019; Cech, 2023; Kim & Cole, 2013; Kutscher & Tuckwiller, 2019). Both characteristics have been shown to pose significant challenges for students in college (Lombardi et al., 2012) and highlight the complex, intersectional nature of socioeconomic status and impairment (e.g., Maroto et al., 2019). On the other hand, findings here somewhat conflict with data from national surveys, distributed in the 2010s, indicating SSM/Vs are more likely to attend college part-time (Blosnich et al., 2015; Campbell & Wescott, 2019). Additionally, there are inconsistencies between our results, which show no significant difference between SSM/V and civilian student first-year college grades, and Durdella and Kim's (2012) findings, which indicate SSM/Vs have

lower cumulative college GPAs even after controlling for demographic and engagement characteristics. GPA variables in the two studies measure grades at different time points, however, which could account for this discrepancy. Regarding student perspectives, we find that SSM/Vs feel less of a sense of campus belonging than their civilian student peers. While this result confirms Barry and colleagues' (2021) findings, it contradicts Durdella and Kim (2012), who found no difference in feelings of campus belonging between SSM/Vs and civilians after accounting for demographic and engagement characteristics.

Some of our results extend the literature. No previous studies, to our knowledge, have quantitatively compared SSM/V and civilian student commuter status, transfer experience, employment hours, or financial stress. Findings show that while students with military experience are significantly more likely to commute to campus, military experience does not significantly associate with higher college transfer rates. Findings on these unexplored characteristics also show that military experience seems to offer more beneficial employment and financial circumstances, with results indicating that SSM/Vs work significantly fewer hours and have significantly lower levels of financial stress. This is likely due to the GI state and federal educational benefits they receive to attend college (e.g., Holian & Adam, 2020).

Similarly, we know of no previous work that has compared SSM/V and civilian feelings of academic major belonging or institutional satisfaction, both important indicators of student persistence and success. Here, results indicate that students with military experience have significantly lower feelings of belonging in their academic majors as well as lower levels of satisfaction with their universities. Results are striking when SSM/Vs are compared to their adult student peers. Though student age significantly correlates with commuter, first-generation, transfer, impairment, and part-time enrollment status[3]—conditions that can make adult students feel separated from life on campus—age still correlates *positively* with the three perspectives tested here, at a marginal level in the case of academic major belonging and a significant level in the case of institutional satisfaction. Again, future research with SSM/V samples across more institutions should further explore the association between military experience and these factors.

Field Positions, Affordances, and Trajectories

Field theory is useful because it helps conceptualize results by connecting student social positions, perceptions, and trajectories. It also allows us to map the attribute-based positions from which SSM/Vs observe and interact within the "university field," addressing RQ1. When age and other important student attributes are controlled, results suggest that SSM/Vs are positioned in ways that bestow both social opportunity and challenge. Findings indicate that SSM/V positions may often be more advantageous materially, as military experience predicts full-time enrollment, fewer employment hours, and less financial stress. Previous studies suggest financial concerns can not only be detrimental to academic success, but also can serve to socially separate burdened students from their more privileged peers (Moore et al., 2020). At the same time, military experience significantly predicts aspects of university positionality that can make

[3] This correlation is by design, as we based our choice of characteristic variables in reference to the literature on nontraditional college student experiences.

college more difficult, including first-generation, commuter, and impairment status. Notably, previous research indicates each of these (often intersecting) positional characteristics can lead to a sense of social mismatch and isolation in the university field, jeopardizing persistence (e.g., Cech, 2023; Newbold et al., 2011; Próspero & Vohra-Gupta, 2007).

Field theory also helps us conceptualize relationships between SSM/V positions and perception, the subject of RQ2. The theory holds that one's position vis-à-vis others in social space—represented as a social topography in Figure 1—allows a unique view of the field's milieu (Ferrare & Apple, 2015; Martin, 2011). Depending on their view, university students judge elements in their social field as beneficial or inhibiting. Here, results show that positions occupied by students with military field experience associate with lower feelings of belonging and satisfaction, constraints which have been linked to campus and departmental alienation, frustration, and lower levels of persistence (e.g., Bean & Metzner, 1985; Schreiner & Nelson, 2013; Strayhorn, 2018; Wilson et al., 2015). At least regarding the perceived "demand character" (Lewin, 1933) of these three university field elements, the SSM/V vantage point seems to be harmful for students in ways that do not redound to age-related factors alone.

Previous research suggests such constraints are often a product of negative interactions between SSM/Vs and civilian students and educators on campus (e.g., Benbow & Lee, 2022; DiRamio et al., 2008; Elliott et al., 2011; Motl et al., 2022). Field theory accommodates these antecedents. It also, however, requires a focus on the imprint one's past has had on values, habits, and preferences. Indeed, after spending significant time in the armed forces, SSM/Vs have many engrained predilections from the encompassing cultural space of the military that color their view of the college experience. Studies suggest, for example, that SSM/Vs often see university life as unstructured and lacking discipline compared to the military, which can lead to SSM/Vs feeling a lack of support and guidance (e.g., McAndrew et al., 2019). Perceptions of social disconnection common among SSM/Vs on university campuses have also been linked to the military's strong atmosphere of camaraderie and common purpose (e.g., Bodrog et al., 2018). Many SSM/Vs may have lower feelings of social fit and satisfaction, researchers argue, because of social and cultural incongruities between the military field, where interaction is the subject of intense training and focus (Reger et al., 2008), and the university field, where individuality is more highly valued (Stephens et al., 2012).

Implications and Conclusions

Findings have implications for university leaders and practitioners who work with SSM/Vs in 4-year institutions. Results suggest students with military experience often have different experiences, characteristics, and perspectives—and therefore different support needs—than other adult learners. This is apparent with GI bill certification services (e.g., Borsari et al., 2017). Still, universities should consider other services specifically designed to help students with military experience acclimate to campus and have a ready-made system of support. Such services may include SSM/V-focused university orientation sessions, tutoring, the provision of a campus SSM/V lounge, service coordinators who can provide information and guidance on campus, and dedicated veteran resource centers consolidating SSM/V services and personnel (e.g., Griffin & Gilbert, 2015; Hodges et al., 2022; Kirchner et al., 2014; Oswald et al., 2019).

SSM/V social connection may also need to be a focus. While research indicates SSM/Vs do not often participate in campus community-building services (e.g., Kappell et al., 2017), the opportunity to socially connect with campus communities can be a source of satisfaction for students (Benbow & Lee, 2024). Recent research shows that SSM/V interactions with student peers and college educators, engagement with certification officials and military-focused personnel, and involvement in campus SSM/V social events all significantly predict increased student feelings of belonging and institutional confidence (Benbow & Lee, 2022, 2024; Oswald et al., 2019; Southwell et al., 2018). Campus military-focused support services can also help educate civilian students and educators who may harbor stereotypes about SSM/Vs (Hodges et al., 2022). Educators can also seek to change perceptions of SSM/Vs by reframing SSM/V support and service through asset-oriented language. For example, the University of Wisconsin–Madison recently changed the name of its military-focused services office from the "Veteran Services and Military Assistance Center" to "University Veteran Services" (Benbow et al., 2024) This change was made to shift focus away from the idea that SSM/Vs needed assistance.

Though this study advances existing knowledge on SSM/Vs, it has several limitations. First, this analysis is not intended to show causal influence, as we were only able to examine statistical correlations between observed variables. Our analyses may be skewed by unobserved individual and institutional characteristics. Second, the current study is cross-sectional and only involves four universities, thus limiting our ability to understand changes in characteristics and perspectives over time and how military experience may continue (or not) to influence students' academic experiences in other kinds of institutions. Third, while our study focuses on the associations between student military experience and important attributes and feelings, SSM/Vs enroll in college having served in widely varying military contexts and are not a monolithic group. Our study was not able to further distinguish these military characteristics or their associative value due to the study's sample size. Future studies could focus on larger samples of SSM/Vs across more institutions, seek to track students longitudinally, or gather data that could help us better understand how specific military experiences (e.g., branch, military occupation, length of service) may associate with student characteristics and perspectives (see Barry et al., 2021). Additionally, mixed methods or qualitative work would also expand the literature in this regard. This knowledge could help university educators better comprehend and support these students.

SSM/V university success is important. SSM/V persistence diversifies universities, fulfills GI bill outlays, and meets vital economic mobility goals. Using a clear, inclusive, and theoretically relevant definition of students with military experience, this study responds to calls for more comparative research across varied higher educational institutions (Fernandez et al., 2019; Sansone & Segura, 2020), addresses several methodological limitations in previous studies, and provides relevant, post-COVID-19 insight that has been missing in the literature.

References

Albright, D. L., Godfrey, K., McDaniel, J. T., Fletcher, K. L., Thomas, K. H., Bertram, J., ... & Stephens, T. M. (2020). Oral health among student veterans: Effects on mental and physical health. *Journal of American College Health*, *68*(3), 263–270.

Albright, D. L., Hendricks Thomas, K., McDaniel, J., Fletcher, K. L., Godfrey, K., Bertram, J., & Angel, C. (2019). When women veterans return: The role of postsecondary education in transition in their civilian lives. *Journal of American College Health*, *67*(5), 479–485.

Anderson-Butcher, D., & Conroy, D. E. (2002). Factorial and criterion validity of scores of a measure of belonging in youth development programs. *Educational and Psychological Measurement*, *62*(5), 857–876.

Baker, A. R. (2019). Implications of financial concerns for college goal commitment among undergraduate students in the United States. *Social Psychology of Education*, 22, 63–89.

Barry, A. E., Jackson, Z. A., & Fullerton, A. B. (2021). An assessment of sense of belonging in higher education among student service members/veterans. *Journal of American College Health*, *69*(3), 335–339.

Barry, A. E., Whiteman, S. D., & Wadsworth, S. M. (2014). Student service members/veterans in higher education: A systematic review. *Journal of Student Affairs Research and Practice*, *51*(1), 30–42.

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485–540.

Benbow, R. J., & Lee, Y. G. (2022). Exploring student service member/veteran social support and campus belonging in university STEMM fields. *Journal of College Student Development*, *63*(6), 593–610.

Benbow, R. J., & Lee, Y. G. (2024). *A mixed method analysis of student service member/veteran engagement with university military-focused student services*. (WCER Working Paper No. 2024-5). University of Wisconsin–Madison, Wisconsin Center for Education Research. https://wcer.wisc.edu/docs/working-papers/WCER_Working_Paper_No._2024-5_.pdf.

Benbow, R. J., Lee, Y. G., Xie, X., & Wolfgram, M. (2024). *Student military service members and veterans in Maryland, New Mexico, Ohio, Tennessee, and Texas universities: Phase One Research Findings from the 2022–2023 Veteran Education to Workforce Affinity and Success Study (VETWAYS)*. The Veteran Education to Workforce Affinity and Success Study (VETWAYS): University of Wisconsin–Madison. https://vetways.wceruw.org/wp-content/uploads/2024/02/VETWAYS_Phase-1-Report_All-Institutions-1.pdf.

Bergman, M., Gross, J. P., Berry, M., & Shuck, B. (2014). If life happened but a degree didn't: Examining factors that impact adult student persistence. *The Journal of Continuing Higher Education*, *62*(2), 90–101.

Blosnich, J. R., Kopacz, M. S., McCarten, J., & Bossarte, R. M. (2015). Mental health and self-directed violence among student service members/veterans in postsecondary education. *Journal of American College Health, 63*(7), 418–426. https://doi.org/10.1080/07448481.2014.931282

Bodrog, B., Gloria, A., & Brockberg, D. (2018). The effects of mattering and combat deployment

on student service members/veterans' college adjustment: A psychosociocultural approach. *Journal of Veterans Studies*, *3*(2), 109–125.

Borsari, B., Yurasek, A., Miller, M. B., Murphy, J. G., McDevitt-Murphy, M. E., Martens, M. P., Darcy, M. G., & Carey, K. B. (2017). Student service members/veterans on campus: Challenges for reintegration. *American Journal of Orthopsychiatry*, *87*(2), 166–175.

Bourdieu, P., & Wacquant, L. J. (1992). *An invitation to reflexive sociology*. University of Chicago Press.

Boyd, N. M., Liu, X., & Horissian, K. (2022). Impact of community experiences on student retention perceptions and satisfaction in higher education. *Journal of College Student Retention: Research, Theory & Practice*, *24*(2), 337–365.

Campbell, T., & Wescott, J. (2019). Profile of undergraduate students: Attendance, distance and remedial education, degree program and field of study, demographics, financial aid, financial literacy, employment, and military status: 2015–16. National Center for Education Statistics. https://nces.ed.gov/pubsearch/pubsinfo.asp.2019.

Cataldi, E. F., Bennett, C. T., & Chen, X. (2018). First-generation students: College access, persistence, and post bachelor's outcomes. NCES 2018-421. *National Center for Education Statistics*. https://files.eric.ed.gov/fulltext/ED580935.pdf

Cate, C. A. (2014). *Million records project: A review of veteran achievement in higher education.* Student Veterans of America. Retrieved at https://studentveterans.org/wp-content/uploads/2020/08/mrp_Full_report.pdf

Cate, C. A., Lyon, J. S., Schmeling, J., & Bogue, B. Y. (2017). *National veteran education success tracker: A report on the academic success of student veterans using the post-9/11 GI bill.* Student Veterans of America.

Cech, E. A. (2023). Engineering ableism: The exclusion and devaluation of engineering students and professionals with physical disabilities and chronic and mental illness. *Journal of Engineering Education*, *112*(2), 462–487.

Chen, J., Ziskin, M. B., & Torres, V. (2020). An analysis of factors affecting dropout risks of nontraditional students: Evidence from US 4-year commuter institutions. *International Journal of Educational Reform*, *29*(1), 38–59.

Cleveland, S. D., Branscum, A. J., Bovbjerg, V. E., & Thorburn, S. (2015). Mental health symptoms among student service members/veterans and civilian college students. *Journal of American College Health, 63*(7), 459–472. https://doi.org/10.1080/07448481.2014.983925

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson.

Crisp, G., Nora, A., & Taggart, A. (2009). Student characteristics, pre-college, college, and environmental factors as predictors of majoring in and earning a STEM degree: An analysis of students attending a Hispanic serving institution. *American Educational Research Journal, 46*(4), 924–942.

Currier, J. M., McDermott, R. C., & McCormick, W. H. (2017). Mental health treatment-related stigma and professional help seeking among student veterans. *Psychological Services, 14*(4), 531–542. https://doi.org/10.1037/ser0000129

Currier, J. M., McDermott, R. C., & Sims, B. M. (2016). Patterns of help-seeking in a national sample of student veterans: A matched control group investigation. *General Hospital Psychiatry, 43*, 58–62. https://doi.org/10.1016/j.genhosppsych.2016.08.004

Davidson, W. B., Beck, H. P., & Milligan, M. (2009). The college persistence questionnaire: Development and validation of an instrument that predicts student attrition. *Journal of College Student Development*, *50*(4), 373–390.

Dika, S. L., & D'Amico, M. M. (2016). Early experiences and integration in the persistence of first-generation college students in STEM and non-STEM majors. *Journal of Research in Science Teaching*, *53*(3), 368–383.

Dill, P. L., & Henley, T. B. (1998). Stressors of college: A comparison of traditional and nontraditional students. *The Journal of Psychology*, *132*(1), 25–32.

DiRamio, D., Ackerman, R., & Mitchell, R. L. (2008). From combat to campus: Voices of student-veterans. *Journal of Student Affairs Research and Practice, 45*(1), 73–102.

Durdella, N. R., & Kim, Y. K. (2012). Understanding patterns of college outcomes among student veterans. *Journal of Studies in Education, 2*(2), 109–129.

Elliott, M., Gonzalez, C., & Larsen, B. (2011). US military veterans transition to college: Combat, PTSD, and alienation on campus. *Journal of Student Affairs Research and Practice*, *48*(3), 279–296.

Elliott, T. R., Hsiao, Y.-Y., Kimbrel, N. A., Meyer, E. C., DeBeer, B. B., Gulliver, S.B., Kwok, O.-M., & Morissette, S. B. (2015). Resilience, traumatic brain injury, depression, and posttraumatic stress among Iraq/Afghanistan war veterans. *Rehabilitation Psychology, 60*(3), 263–276.

Fernandez, F., Merson, D., Ro, H. K., & Rankin, S. (2019). Do classroom interactions relate to considerations of institutional departure among student veterans and service members? *Innovative Higher Education*, *44*(3), 233–245.

Ferrare, J. J., & Apple, M. W. (2015). Field theory and educational practice: Bourdieu and the pedagogic qualities of local field positions in educational contexts. *Cambridge Journal of Education*, *45*(1), 43–59.

Gati, I., Ryzhik, T., & Vertsberger, D. (2013). Preparing young veterans for civilian life: The effects of a workshop on career decision-making difficulties and self-efficacy. *Journal of Vocational Behavior*, *83*(3), 373–385.

Gibson, J. J. (1986). *The ecological approach to visual perception*. Princeton University Press.

Gilardi, S., & Guglielmetti, C. (2011). University life of non-traditional students: Engagement styles and impact on attrition. *The Journal of Higher Education*, *82*(1), 33–53.

Griffin, K. A., & Gilbert, C. K. (2015). Better transitions for troops: An application of Schlossberg's transition framework to analyses of barriers and institutional support structures for student veterans. *The Journal of Higher Education*, *86*(1), 71–97.

Hoglund, M. W., & Schwartz, R. M. (2014). Mental health in deployed and nondeployed veteran men and women in comparison with their civilian counterparts. *Military Medicine*, *179*(1), 19–25.

Holian, L., & Adam, T. (2020). Veterans' education benefits: A profile of military students who received federal veterans' education benefits in 2015–16. NCES 2020-488rev. *National Center for Education Statistics*.

Holloway-Friesen, H. (2018). On the road home: A content analysis of commuters' sense of belonging. *College Student Affairs Journal*, *36*(2), 81–96.

Hu, X., Ortagus, J. C., & Kramer, D. A. (2018). The community college pathway: An analysis of the costs associated with enrolling initially at a community college before transferring to a 4-year institution. *Higher Education Policy*, *31*, 359–380.

Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging. *Sociology of Education*, 324–345.

Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education*, *77*(5), 861–885.

Johnston, M. P. (2014). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries*, *3*(3), 619–626.

Kappell, J., Boersma, J., DeVita, J., & Parker, M. (2017). Student veterans' participation in high impact practices: Veterans' experiences at three institutions of higher education in southeastern North Carolina. *Journal of Veterans Studies*, *2*(1), 29–49.

Kim, Y. M., & Cole, J. S. (2013). *Student veterans/service members' engagement in college and university life and education.* American Council on Education & National Survey of Student Engagement.

Kirchner, M. J., Coryell, L., & Yelich Biniecki, S. M. (2014). Promising practices for engaging student veterans. *Quality Approaches in Higher Education*, *5*(1), 12–18.

Kutscher, E. L., & Tuckwiller, E. D. (2019). Persistence in higher education for students with disabilities: A mixed systematic review. *Journal of Diversity in Higher Education*, *12*(2), 136–155.

Lang, W. A. (2021, February). *Completing the mission III: Assessing the impact of the COVID pandemic on student veterans and campus support services*. Operation College Promise. https://www.tamus.edu/veterans/covid/.

Lewin, K. (1933). Environmental forces in child behavior and development. In C. Murchison (Ed.), *A handbook of child psychology* (2nd ed.). Clark University Press.

Lim, J. H., Interiano, C. G., Nowell, C. E., Tkacik, P. T., & Dahlberg, J. L. (2018). Invisible cultural barriers: Contrasting perspectives on student veterans' transition. *Journal of College Student Development*, *59*(3), 291–308.

Lombardi, A. R., Murray, C., & Gerdes, H. (2012). Academic performance of first-generation college students with disabilities. *Journal of College Student Development*, *53*(6), 811–826.

Markle, G. (2015). Factors influencing persistence among nontraditional university students. *Adult Education Quarterly*, *65*(3), 267–285.

Maroto, M., Pettinicchio, D., & Patterson, A. C. (2019). Hierarchies of categorical disadvantage: Economic insecurity at the intersection of disability, gender, and race. *Gender & Society*, *33*(1), 64–93.

Martin, J. L. (2011). *The explanation of social action*. Oxford University Press.

McAndrew, L. M., Slotkin, S., Kimber, J., Maestro, K., Phillips, L. A., Martin, J. L., Credé, M., & Eklund, A. (2019). Cultural incongruity predicts adjustment to college for student veterans. *Journal of Counseling Psychology*, *66*(6), 678–689.

McGuffin, J. J., Riggs, S. A., & Taylor, D. J. (2019). Role of combat exposure and insomnia in student veterans' adaptation to college. *Behavioral Sleep Medicine*, *17*(2), 213–223.

Molina, D., & Morse, A. (2015, April). *Military-connected undergraduates: The current state of research and future work*. American Council on Education, NASPA-Student Affairs Administrators in Higher Education, and RTI International.

Morrill, S., & Somers, P. A. (2020). From benefits to success: Veterans' educational outcomes in the post-9/11 era. *Community College Journal of Research and Practice*, *44*(9), 629–643.

Motl, T. C., George, K. A., Gibson, B. J., Mollenhauer, M. A., & Birke, L. (2022). Stereotyping of student service members and veterans on a university campus in the US. *Military Psychology*, *34*(5), 604–615.

Moore, E. A., Winterrowd, E., Petrouske, A., Priniski, S. J., & Achter, J. (2020). Nontraditional and struggling: Academic and financial distress among older student clients. *Journal of College Counseling*, *23*(3), 221–233.

Newbold, J. J., Mehta, S. S., & Forbus, P. (2011). Commuter students: Involvement and identification with an institution of higher education. *Academy of Educational Leadership Journal*, *15*(2), 141–153.

Niu, Y., Zhu, Y., Xu, X., & Hunter-Johnson, Y. (2022). Exploring self-perceived employability and ambition of student veterans in a higher education institution in the United States. *Journal of Interdisciplinary Studies in Education*, *11*(2), 73–94.

Osam, E. K., Bergman, M., & Cumberland, D. M. (2017). An integrative literature review on the barriers impacting adult learners' return to college. *Adult Learning*, *28*(2), 54–60.

Oswald, B. B., Walton, A. J., Campbell, D. G., & Seufert, R. L. (2019). How coordinating veterans' services on campus can increase satisfaction in military-affiliated students. *Journal on Excellence in College Teaching, 30*(2), 29–54.

Pascarella, E. T., Pierson, C. T., Wolniak, G. C., & Terenzini, P. T. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education*, *75*(3), 249–284.

Próspero, M., & Vohra-Gupta, S. (2007). First generation college students: Motivation, integration, and academic achievement. *Community College Journal of Research and Practice*, *31*(12), 963–975.

Raaper, R., Brown, C., & Llewellyn, A. (2022). Student support as social network: Exploring non-traditional student experiences of academic and wellbeing support during the Covid-19 pandemic. *Educational Review*, *74*(3), 402–421.

Reger, M. A., Etherage, J. R., Reger, G. M., & Gahm, G. A. (2008). Civilian psychologists in an Army culture: The ethical challenge of cultural competence. *Military Psychology*, *20*(1), 21–35.

Ross-Gordon, J. M. (2011). Research on adult learners: Supporting the needs of a student population that is no longer nontraditional. *Peer Review, 13*(1), 26–29.

Sansone, V. A., & Segura, J. S. T. (2020). Exploring factors contributing to college success among student veteran transfers at a four-year university. *The Review of Higher Education*, *43*(3), 888–916.

Santos Laanan, F. (2007). Studying transfer students: Part II: Dimensions of transfer students' adjustment. *Community College Journal of Research and Practice*, *31*(1), 37–59.

Schjoedt, L., & Bird, B. (2014). Control variables: Use, misuse and recommended use. *Handbook of Research Methods and Applications in Entrepreneurship and Small Business*, 136–155.

Schreiner, L. A., & Nelson, D. D. (2013). The contribution of student satisfaction to persistence. *Journal of College Student Retention: Research, Theory & Practice*, *15*(1), 73–111.

Southwell, K. H., Whiteman, S. D., MacDermid Wadsworth, S. M., & Barry, A. E. (2018). The use of university services and student retention: Differential links for student service members or veterans and civilian students. *Journal of College Student Retention: Research, Theory & Practice, 19*(4), 394–412.

Steele, J. L., Buryk, P., & McGovern, G. (2018). Student veterans' outcomes by higher education sector: Evidence from three cohorts of the Baccalaureate and Beyond. *Research in Higher Education, 59*(7), 866–896.

Steidl, C., Werum, R., Harcey, S., Absalon, J., & MillerMacPhee, A. (2020). Soldiers to scientists: Military service, gender, and STEM degree earning. *Socius: Sociological Research for a Dynamic World*, *6*, 1–11.

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: how American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology*, *102*(6), 1178–1197.

Strayhorn, T. L. (2018). *College students' sense of belonging: A key to educational success for all students*. Routledge.

Teeters, J. B., Woodward, M. J., Meshesha, L. Z., & Tripp, J. C. (2020). Cannabis use in civilian college students and college student service members/veterans: The moderating effect of anxiety. *The American Journal of Drug and Alcohol Abuse,* 46(6), 777–783.

Werum, R., Steidl, C., Harcey, S., & Absalon, J. (2020). Military service and STEM employment: Do veterans have an advantage? *Social Science Research*, *92*, 102478.

Whiteman, S. D., Barry, A. E., Mroczek, D. K., & Wadsworth, S. M. (2013). The development and implications of peer emotional support for student service members/veterans and civilian college students. *Journal of Counseling Psychology*, *60*(2), 265.

Wilson, D., Jones, D., Bocell, F., Crawford, J., Kim, M. J., Veilleux, N., Floyd-Smith, T., Bates, R., & Plett, M. (2015). Belonging and academic engagement among undergraduate STEM students: A multi-institutional study. *Research in Higher Education*, *56*, 750–776.