VETWAYS

The Veteran Education to Workforce
Affinity and Success Study

RESEARCH BRIEF

**Tracing Student Military Service
Member/Veteran Social Network
Change and Career Paths through
the COVID-19 Pandemic:
A Two Phase Survey Study**

**Ms. Xin Xie and
Dr. Ross J. Benbow**
Wisconsin Center for Education Research
University of Wisconsin-Madison

SUMMARY

Undergraduate student service members/veterans (SSM/Vs) are an emergent group of nontraditional students who contribute to the diversity of U.S. universities. Compared with traditional students, however, SSM/Vs face unique challenges even when 4-year institutions function normally.

Given the importance of social support networks to SSM/Vs as well as the disruption of the COVID-19 pandemic, this research brief uses data from two surveys of a panel of SSM/Vs (n=375) to explore correlations between pre-pandemic social support networks and negative academic or career impacts of the pandemic. It also studies how social support network change through the pandemic—including the addition, loss, and/or replacement of social ties between the spring of 2020 (Time 1) and the late fall of 2021 (Time 2)—might be associated with negative impacts.

Key Findings:

- **Findings indicate that SSM/Vs with deeper campus social ties felt the sting of campus closures more than SSM/Vs without such ties.**

- SSM/Vs with higher network turnover through the pandemic—including the addition, loss, and/or replacement of core network ties—were more prone to report negative academic and career impacts than those whose networks remained stable.

- The proportion of college educators or family members in SSM/V networks at Time 1 did not significantly associate with perceived COVID-19 academic or career impacts at Time 2.

- As pandemic-related effects subside on campuses, we suggest university educators focus on renewing and revitalizing SSM/V connections with fellow students, faculty, and student service providers on campus through:

  (1) multipronged efforts to directly reach out to SSM/Vs to re-establish contact and show students that they still have a real, authentic support system on campus;

  (2) helping local student veteran organizations rebuild;

  (3) organizing formal and informal SSM/V-focused community-building events like campus academic or career fairs, lunch or dinner get-togethers, and other activities; and

  (4) establish or reinvigorate student veteran and service member lounge spaces.

Introduction and Background

Student military service members/veterans (SSM/Vs), defined as undergraduate students who are either current or former members of the U.S. military, have been among the fastest-growing groups of nontraditional students in U.S. higher education in recent years (American Council on Education, 2014; U.S. Department of Veterans Affairs, 2016).

Supported by expansive postsecondary GI education benefits, SSM/Vs' increased enrollment over the last two decades contributes to higher education diversity. SSM/Vs have been older, more often African American, more often first-generation students from economically disadvantaged backgrounds, and more likely to report physical and/or cognitive disabilities than traditional students (Barry et al., 2012; Cate et al., 2017; Kim & Cole, 2013; National Survey of Student Engagement, 2010). However, the influx of SSM/Vs also brings challenges to universities' supportive capacity, as SSM/Vs face unique difficulties many postsecondary educators still do not fully comprehend, including the turbulence of sociocultural transitions between military and civilian lives, service-related mental and physical ailments, and social alienation on campus (Niv & Bennett, 2017; Rumann & Hamrick, 2010; Zhang, 2018).

Many of the unique challenges SSM/Vs face in higher education have been exacerbated by the COVID-19 pandemic, which forced colleges and universities to offer classes and support services online through much of 2020 and 2021 (Aucejo et al., 2020). Pre-pandemic studies have already found that online education aggravates SSM/Vs' military to university transitions (Kirchner & Pepper, 2020), while a more recent study found that SSM/Vs, compared with non-veteran students, tended to display more detrimental pre-COVID health behaviors that were further amplified due to the pandemic (Canjar et al., 2022). Other SSM/V difficulties during the pandemic included economic and employment loss, mental health needs, and social isolation and loneliness (Ramchand et al., 2020). Social support is an especially important issue, as SSM/Vs' academic and career pathways are often closely related to their social interactions and support (e.g., Griffin & Gilbert, 2015). COVID-19, however, closed the very outlet—classrooms—that research has shown are so important to nontraditional undergraduate students on college campuses (e.g., Deil-Amen, 2011).

> **COVID-19 closed college classrooms, which research suggests are an all-important source of learning and connection for nontraditional undergraduate students on campuses.**

Study Purpose

Little research has explored SSM/Vs' social support networks in depth. Further, to our knowledge no studies have investigated how SSM/V networks may have changed through the COVID-19 pandemic. or whether—as previous research suggests—support networks may have represented a potentially crucial area of academic and career support for SSM/Vs during this difficult time. We believe that an increased understanding of how beneficial SSM/V network connections associate with disruption could not only inform local efforts to better assist this talented population, but also help further develop a knowledge base focused on SSM/V social support and success.

With these gaps in mind, we use social capital theory and quantitative social network analysis (SNA), which focuses on the influence of individuals' relationships on their attitudes or behaviors (Wasserman & Faust, 1994), to answer two research questions (RQs):

RQ1. How, if at all, do SSM/V social support networks from the beginning of the COVID-19 pandemic associate with the impact of the pandemic on their academic/career pathways?

RQ2: How, if at all, did SSM/V network change associate with the impact of the pandemic on SSM/V academic/career pathways?

Social Capital

This study is framed using Nan Lin's (2001) theory of social capital. Social capital is defined as valuable resources, like information, advice, or emotional support, that are invested in, accessed, and mobilized through groups of relationships we call "social support networks." Lin sees social capital as unequally distributed, arguing that the flow of support among people depends on the interplay between an individual's *position*—including their social place based on their life experience or identities—and *social structure*—the broader social institutions that impose normative values (Lin, 2001). Based on these conditions, one develops access to relationships that can be marshalled to provide one social resources. These resources, in turn, lead to affective or material benefits or "returns." This process is displayed in Figure 1.

Figure 1. The development of social capital through social support networks (Lin, 2001)
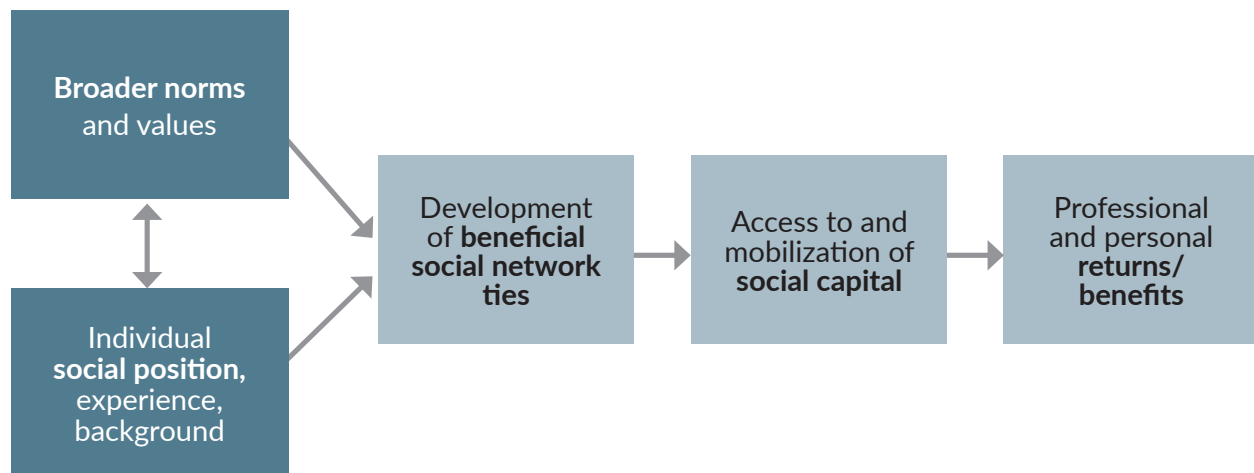
Our use of this theory in this study depends upon important connections SNA researchers have shown between certain social support network characteristics and social benefits (e.g., Borgatti & Halgin, 2011). Specifically, we test the association of individual support network attributes, or measures representing access to social capital (independent variables), with measures representing the impact of COVID-19 on SSM/V academic/career paths (dependent variables).
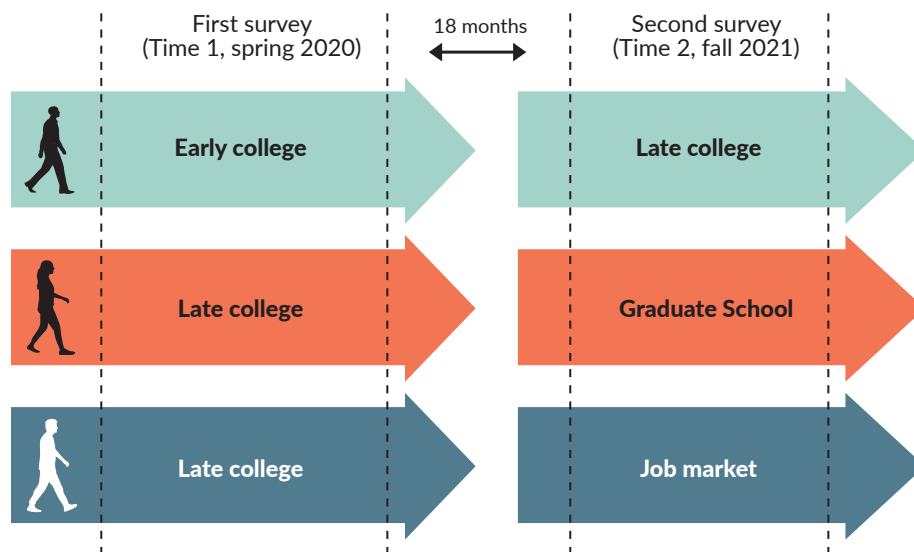
In this brief, social capital is denoted by five support network characteristics and one network change measure that we hypothesize influence SSM/V academic and career trajectories. **Network size,** or the number of beneficial contacts in an individual's social network, is typically found to be positively associated with social support (Burt, 1987) and academic achievement among college students (Dawson, 2010). **Density,** measured by number of interrelationships among one's contacts, often speaks to closer coordination and companionship within networks (Burt, 1987), which can also positively associate with college academic performance (e.g., Rizzuto et al., 2009). **Educator, fellow student, and family percentage** represent the different proportions of university faculty/staff, fellow college students, and family members in SSM/V networks. Respectively, in this study these measures are meant to reflect access to mentorship and institutional support (Ackerman et al., 2009), deeper involvement in local academic communities (Kitchen et al., 2018), and support from family members (Gibbons et al., 2019). **Tie churn,** lastly, represents the change in individual social networks from one point of time to another (Perry et al., 2018). While new social connections may fit new circumstances better than old connections, the loss of social ties often comes at a cost (Weiss et al., 2022). Network size, density, and educator, fellow student, and family percentage are based on the responses from our first survey, which we refer to as our "Time One" (T1) survey. Tie churn was based on comparing responses from the T1 and Time Two (T2) survey.

> Here we test the association of SSM/Vs' support network attributes, or measures representing access to social capital, with measures representing the impact of COVID-19 on SSM/Vs' academic and career paths.

Research Methods

This analysis focuses on the responses of a panel of SSM/Vs to T1 and T2 online surveys, sent 18 months apart, regarding social support networks and the perceived impact of COVID-19 on individuals' academic/ career pathways. Using three example SSM/V pathways, Figure 2 displays this study's SSM/Vs quasi-longitudinal panel research design.

Figure 2. Quasi-longitudinal, two-phase study design

First survey
(Time 1, spring 2020)

18 months

Second survey
(Time 2, fall 2021)

Early college	Late college
Late college	Graduate School
Late college	Job market

Sampling

The five Wisconsin public universities initially included in this study were chosen for their institutional and geographic diversity. We used a purposeful and nonprobability procedure to recruit SSM/V respondents from these universities by asking veteran service coordinators at each institution to email all identified SSM/Vs a Qualtrics link to the T1 survey in the spring of 2020. These emails elicited 623 online survey responses (32% response rate) between February and May 2020. We emailed the T2 Qualtrics survey in the late fall and early winter of 2021 and 2022 to all T1 survey respondents who agreed to be recontacted. These emails elicited 378 responses (39% attrition rate) between October 2021 and January 2022. Table 1 displays attributes for the Time 2 survey sample.

Table 2. Time 2 COVID-19 academic/career path impact measures, survey items, scoring, and mean

Measure	N	%
Gender		
Female	88	23.3
Male	288	76.2
Nonbinary	2	0.5
Race/Ethnicity[1]		
American Indian or Alaska Native	11	2.9
Asian or Asian American	28	7.4
Black or African American	14	3.7
Hispanic or Latino	27	7.1
Native Hawaiian of Pacific Islander	5	1.3
White or Caucasian	314	83.1
Undergraduate Major		
Arts and Humanities	26	6.9
Biological and Life Sciences	29	7.7
Business	34	9.0
Education	17	4.5
Engineering	48	12.7
Finance	55	14.6
Health	43	11.4

1. "The "Race/Ethnicity" category shows the number of students identifying in each subgroup. Some students identified in two or more subgroups.

Measure	N	%
Math and Computer Science	30	7.9
Physical Science	10	2.6
Social Science	47	12.4
Other (Architecture, Criminal Justice, etc.)	34	9.0
Undeclared	5	1.3
First-Generation Students	131	34.7
Disabled	84	22.2
Institution		
State College 1 (undergraduate enrollment~9000)	60	15.9
State College 2 (undergraduate enrollment~33000)	74	19.6
State College 3 (undergraduate enrollment~20000)	93	24.6
State College 4 (undergraduate enrollment~14000)	64	16.9
State College 5 (undergraduate enrollment~7000)	87	23.0
Mean Age	29.4 (SD = 9)	
Status (Time 2)		
Undergraduate student	205	54.2
Graduated and studying in graduate/professional program	34	9.0
Graduated and employed	84	22.2
Graduated and unemployed	14	3.7
Dropped or stopped out from undergraduate studies	34	9.0

Data Sources

For social support network measures , the T1 and T2 surveys included similar questions following established SNA "egocentric" or "personal" techniques (Perry et al., 2018). These began with two name generators meant to identify important people with whom survey respondents discussed personal and academic/career matters (measuring network size). Follow-up questions established whether the respondent thought each listed person knew one another (measuring *density* at Time 1) and whether contacts were college educators, students, family members, or in other roles (measuring *educator*, *student*, and *family member* percentage at Time 1). By comparing the listed contacts in Time 1 and Time 2 surveys, we also calculated network change between the spring of 2020 and the fall of 2021 (measuring *tie churn*). Tie churn is a continuous variable measuring each respondent's network turnover between Time 1 and Time 2 survey (Halgin & Borgatti, 2012). Here, the first author manually compared the number of listed social network contacts dropped and added between the T1 and T2 surveys among the 378 T2 survey respondents, then divided the total number of unique contacts pooled across the two time points (Perry et al., 2018).

> **Our analysis is based on the responses of a panel of SSM/Vs to a "Time 1" survey, sent in the spring of 2020, and a "Time 2" survey, sent in the fall of 2021. Surveys asked students about their social support networks and how COVID-19 had impacted their academic and career pathways.**

To gauge respondent views of the COVID-19 pandemic's impact on SSM/V academic/career paths, the T2 survey included a set of questions developed by the researchers. The prompt began with a statement reading, "This study focuses on your academic/career path, or your trajectory into a professional life you find gratifying." Respondents were then asked to indicate their agreement on a five-point Likert scale (1=Strongly disagree to 5=Strongly agree) to four statements regarding their academic/career paths and COVID-19-related events: "Overall, COVID-19 has had a negative impact on my academic/career path"; "Overall, COVID-19 has made it more difficult for me to follow an academic/career path with which I am satisfied"; "All in all, my academic/career path has been positively influenced by COVID-19"; and, "All in all, I have had academic/career path setbacks because of COVID-19." This battery is displayed in Table 2.

Various conditions (Lin, 2001) were also gathered through the T1 and T2 surveys, including gender, race/ethnicity, age, first-generation status, whether respondents had dependents, and whether one was a science, technology, engineering, mathematics, or medical (STEMM) major in college. These measures were used in the analytical models as control variables.

Table 2. Time 2 COVID-19 academic/career path impact measures, survey items, scoring, and mean

Measures	Survey Item	Scoring	Resulting Mean
This study focuses on your academic/career path, or your trajectory into a professional life you find gratifying. Please indicate how much you agree or disagree with each of the following statements about your academic/career path and COVID-19-related events:			
1. Negative impact on academic/career path	Overall, COVID-19 has had a negative impact on my academic/career path.	Strongly disagree = 1 Disagree = 2 Neither agree nor disagree = 3 Agree = 4 Strongly agree = 5	Mean = 3.17 SD = 1.27
2. More difficult to follow satisfying academic/career path	Overall, COVID-19 has made it more difficult for me to follow an academic/career path with which I am satisfied.		Mean = 3.09 SD = 1.23
3. Positive influence on academic/career path	All in all, my academic/career path has been positively influenced by COVID-19.		Mean = 2.47 SD = 1.07
4. Academic/career path setbacks	All in all, I have had academic/career path setbacks because of COVID-19.		Mean = 3.18 SD = 1.23
Overall COVID-19 negative impact			Mean = 3.25 SD = 0.98

Note: The Cronbach's alpha for the 4 survey items measuring COVID-19's impact on students' academic and career path is 0.836 (the third item is reversed scored), suggesting that the internal consistency for this battery is strong.

Analysis

We conducted our descriptive analyses using E-NET and R, two widely used programs for calculating statistical measures. We started by calculating SSM/V social network measures, and then tested the associations between network measures and social capital "returns" in the form of COVID-19's impact on SSM/V academic/career paths. We estimated OLS regression models as

$$Y_i = \alpha + \beta NetworkMeasure_i + \gamma Position_i + \delta Structure_i + \varepsilon_i$$

where Y_i is a measure of COVID-19's impact (either on a specific aspect of one's academic/career path or overall) for individual i, $NetworkMeasure_i$ is one of the network measures of interest, $Position_i$ and $Structure_i$ are "positional" and "structural" conditions controlled in the model (see Lin, 2001), and ε_i is the idiosyncratic error term.

Results

RQ1. How Do SSM/V Social Support Networks from the Beginning of the COVID-19 Pandemic Associate with the Impact of the Pandemic on Their Academic/Career Pathways?

Associations between SSM/V social network measures—including network size, density, fellow student, educator, and family member percentage, and tie churn— and the social capital "return" of pandemic-related academic/career path impacts are displayed in Table 3.

First, results indicate that Time 1 SSM/V social support network size, educator percentage, and family percentage did not significantly associate with perceived COVID-19 academic or career impacts at Time 2.

While these findings should be further explored, recent research suggests several reasons that may explain these results. Patil and colleagues' (2021) recent work presents one possible explanation regarding student ties. There, researchers found that network size was not significantly associated with college students' pandemic-related attitudes and behaviors, potentially because larger social networks may offer students more diverse and even contradictory perspectives, requiring significant reconciliation skills. Regarding educator social ties, while faculty and administrative staff play a critical support role, they also experienced many of the same COVID-19 disruptions students faced. This was particularly true at the onset of the pandemic, when educators had little information that would help them prepare for the drastically different circumstances under which they would be working (Murphy et al., 2020). This may partly explain research that has shown students reporting little institutional support in their social networks during the pandemic (Raaper et al., 2021; Vaterlaus et al., 2021). Finally, the academic and career support functions of family members, especially for first-generation, working class, and nontraditional college students, can be exceedingly complex. Family members can provide powerful mental and emotional support, but at the same time may also distract students from their studies (Raaper et al., 2021; Gibbons et al., 2019). Further research regarding SSM/V family support is needed.

Table 3. Statistical results for SSM/V social support network measures and change linked to COVID-19 impact

Measure	Negative impact on academic/career path (Time 2)	More difficult to follow satisfying academic/career path (Time 2)	Positive influence on academic/career path (Time 2)	Academic/career path setbacks (Time 2)	Overall COVID-19 negative impact (Time 2)
RQ1. Network characteristics at Time 1					
Network size	0.017	0.042	-0.028	0.016	0.026
(N = 367)	(0.025)	(0.025)	(0.021)	(0.026)	(0.021)
Density	-0.601*	0.461	-0.172	-0.199	-0.261
(N = 342)	(0.253)	(0.247)	(0.209)	(0.250)	(0.201)
Educator percentage	0.001	0.003	-0.002	0.006	0.003
(N = 367)	(0.004)	(0.004)	(0.003)	(0.004)	(0.003)
Fellow student percentage	0.018***	0.018***	-0.016***	0.011*	0.016***
(N = 367)	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
Family percentage	-0.003	-0.003	0.0003	-0.001	-0.002
(N = 367)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
RQ2. Network change from Time 1 to Time 2					
Tie churn	0.585*	1.041***	-0.174	1.044***	0.679**
(N = 362)	(0.276)	(0.265)	(0.236)	(0.270)	(0.219)

*Note: Standard errors in parentheses; * p<0.05; ** p<0.01; *** p<0.001. As covariates in each model, we included gender, racial/ethnic status, age, first-generation status, dependent status, and major discipline. Covariates are not reported in the table.*

There are significant associations, however. Findings show that the density of SSM/V support networks at Time 1 is negatively associated with the first Time 2 COVID-19 impact item, meaning that SSM/Vs who reported denser, more tightly connected networks at the onset of the pandemic were less likely to suffer negative COVID-19 academic/career path impacts 18 months later. This confirms previous findings that network density can help guard against loneliness (Kovacs et al., 2021). It also supports research showing that high-density support networks are more likely to provide protective and academic

> **SSM/Vs who reported denser, more tightly connected networks at the onset of the pandemic were less likely to suffer negative COVID-19 academic/ career path impacts 18 months later. Those with more student connections, however, were more likely to report suffering pandemic-related setbacks.**

wellbeing, especially for nontraditional students (Raaper et al., 2021). Results also indicate the student percentage is positively associated with all four COVID-19 negative impact items, suggesting that SSM/Vs who had a higher proportion of fellow students in their support networks before the pandemic were more likely to encounter academic/career path setbacks during the pandemic than those with fewer student contacts. This resonates with previous findings showing sharp declines in student interaction, as well as higher emotional detachment from fellow students, through the COVID-19 pandemic (Meo et al., 2020; Tice et al., 2021). It also, importantly, underlines previous research confirming the *importance* of relationships with fellow college students to belonging, academic integration, and academic success (e.g., Benbow & Lee, 2022).

RQ2. How Does SSM/V Network Change Associate with the Impact of the Pandemic on SSM/V Academic/Career Pathways?

We find that tie churn is significantly associated with three COVID-19 impact items, indicating that SSM/Vs with more network change between Time 1 and Time 2 were more prone to report negative academic/career path impacts from the pandemic. While the direction of this correlation should be the subject of further research, this result suggests that high network turnover rates among SSM/Vs can be costly, bringing about rapid social changes that may disrupt student academic or career trajectories (Weiss et al., 2022)

Conclusions and Implications

Based on Lin's (2001) theory of social capital, this study develops new knowledge on links between social support networks and academic and career paths among SSM/Vs, an emergent and diverse university population. While recent studies have begun to explore the myriad financial, health, and social challenges SSM/Vs faced during the pandemic, this work seeks to identify and document the complexities within SSM/V social support networks that matter during non-pandemic times, as well. In this way, research on how networks change as SSM/Vs traverse career pathways as well as whether networks can play an important role in shaping SSM/V outcomes can be valuable to practitioners and researchers alike.

Results generally support recent research that shows the negative impact of the pandemic on nontraditional and marginalized student populations in higher education. As helpful as college-based relationships can be in normal times, particularly between SSM/Vs and their fellow college students, results indicate that those who were supported in college by other students felt the sting of campus closures more than others.

> **Results indicate that SSM/Vs who were supported in college by fellow college students felt the sting of campus closures more than others. With this in mind, as pandemic-related disruptions subside, we suggest university educators focus on helping SSM/Vs renew and revitalize campus social connections.**

This in mind, as pandemic-related effects subside on campuses, we suggest university educators focus on renewing and revitalizing SSM/V connections with one another, fellow students, faculty, and student service providers on campus. This is not a simple task, as we know many SSM/Vs' time on campus is limited due to off-campus work or family responsibilities. Still, educators can work toward this goal by:

- increasing multipronged efforts to directly reach out to SSM/Vs—through social media, electronic messages, online meetings, and phone calls—to re-establish contact and show students that they still have a real, authentic support system on campus. This kind of outreach will be particularly important for SSM/Vs who are newly enrolled;

- helping local student veteran organizations rebuild by helping get out the word about leadership openings, online, in-person, or hybrid meetings, and other re-development efforts;

- organizing formal and informal SSM/V-focused community-building events like campus academic or career fairs, lunch or dinner get-togethers, and other activities in which students on and off campus can meet in person and reorient themselves to student military-affiliated social circles;

- establishing or reinvigorating student veteran and service member lounge spaces, which give SSM/Vs a safe space on campus to spend time between classes, study, and interact with other military-affiliated students.

Resources

Ackerman, R., DiRamio, D., & Mitchell, R. L. G. (2009). Transitions: Combat veterans as college students. *New Directions for Student Services, 2009*(126), 5–14.

American Council on Education (2014). *Higher Ed Spotlight: Undergraduate student veterans.* Retrieved from http://combat2career.com/blog/ace-undergraduate-student-veteraninfographic-november-2014/.

Aucejo, E. M., French, J., Araya, M. P. U., & Zafar, B. (2020). The impact of COVID-19 on student experiences and expectations: Evidence from a survey. *Journal of public economics, 191*, 104271.

Barry, A. E., Whiteman, S. D., Wadsworth, S. M., & Hitt, S. F. (2012). The alcohol use and associated mental health problems of student service members/veterans in higher education. *Drugs: Education, Prevention and Policy, 19*(5), 415–425.

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, 64*(6), 593-610.

Borgatti, S. P., & Halgin, D. S. (2011). On network theory. *Organization Science, 22*(5), 1168–1181.

Burt, R. S. (1987). A note on strangers, friends and happiness. *Social Networks, 9*(4), 311-331.

Canjar, M. R., Richard, D. L., & Kappus, R. M. (2022). The impact of COVID-19 on cardiovascular health behaviors in student veterans. *Nutrition, Metabolism and Cardiovascular Diseases, 32*(3), 727–733.

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.

Dawson, S. (2010). "Seeing" the learning community: an exploration of the development of a resource for monitoring online student networking. *British Journal of Educational Technology, 41*(5), 736–752.

Deil-Amen, R. (2011). Socio-academic integrative moments: Rethinking academic and social integration among two-year college students in career-related programs. *Journal of Higher Education, 82*(1), 54–91.

Gibbons, M. M., Rhinehart, A., & Hardin, E. (2019). How first-generation college students adjust to college. *Journal of College Student Retention: Research, Theory & Practice, 20*(4), 488–510.

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.

Halgin, D. S., & Borgatti, S. P. (2012). An introduction to personal network analysis and tie churn statistics using E-NET. *Connections, 32*(1), 37–48.

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., & Pepper, S. (2020). Student veteran engagement in online education. *New Directions for Adult and Continuing Education, 2020*(166), 95–109.

Kitchen, J. A., Sadler, P., & Sonnert, G. (2018). The impact of summer bridge programs on college students' STEM career aspirations. *Journal of College Student Development, 59*(6), 698–715.

Kovacs, B., Caplan, N., Grob, S., & King, M. (2021). Social networks and loneliness during the COVID-19 pandemic. *Socius, 7*, 2378023120985254.

Lin, N. (2001). *Social capital: A theory of social structure and action*. Cambridge University Press.

Meo, S. A., Abukhalaf, A. A., Alomar, A. A., Sattar, K., & Klonoff, D. C. (2020). COVID-19 pandemic: impact of quarantine on medical students' mental wellbeing and learning behaviors. *Pakistan journal of medical sciences, 36*(COVID19-S4), S43.

Murphy, L., Eduljee, N. B., & Croteau, K. (2020). College student transition to synchronous virtual classes during the COVID-19 pandemic in Northeastern United States. *Pedagogical Research, 5*(4).

National Survey of Student Engagement. (2010). *Major differences: Examining student engagement by field of study*. Indiana University Center for Postsecondary Research.

Patil, U., Kostareva, U., Hadley, M., Manganello, J. A., Okan, O., Dadaczynski, K., ... & Sentell, T. (2021). Health literacy, digital health literacy, and COVID-19 pandemic attitudes and behaviors in US college students: implications for interventions. *International Journal of Environmental Research and Public Health, 18*(6), 3301.

Perry, B. L., Pescosolido, B. A., & Borgatti, S. P. (2018). *Egocentric network analysis: Foundations, methods, and models*. Cambridge University Press.

Raaper, R., Brown, C., & Llewellyn, A. (2021). Student support as social network: Exploring non-traditional student experiences of academic and wellbeing support during the Covid-19 pandemic. *Educational Review*, 1–20.

Ramchand, R., Harrell, M. C., Berglass, N., & Lauck, M. (2020). *Veterans and COVID-19*. Retrieved from https://static1.squarespace.com/static/58266fd2e58c628c3c901b40/t/5e8667973383143299c676e0/1585866649104/BWF_WhitePaper-COVID19-5.0-Final.pdf.

Rizzuto, T. E., LeDoux, J., & Hatala, J. P. (2009). It's not just what you know, it's who you know: Testing a model of the relative importance of social networks to academic performance. *Social Psychology of Education, 12*(2), 175–189.

Rumann, C. B., & Hamrick, F. A. (2010). Student veterans in transition: Re-enrolling after war zone deployments. *The Journal of Higher Education, 81*(4), 431–458.

Tice, D., Baumeister, R., Crawford, J., Allen, K. A., & Percy, A. (2021). Student belongingness in higher education: Lessons for Professors from the COVID-19 pandemic. *Journal of University Teaching & Learning Practice, 18*(4), 2.

U.S. Department of Veterans Affairs. (2016). *VA benefits report 2016.* Retrieved from http://www.benefits.va.gov/REPORTS/abr/ABR-Education-FY16-03022017.pdf.

Vaterlaus, J. M., Shaffer, T., & Pulsipher, L. (2021). College student interpersonal and institutional relationships during the COVID-19 pandemic: A qualitative exploratory study. *The Social Science Journal,* 1–14.

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications.* Cambridge University Press.

Weiss, J., Lawton, L. E., & Fischer, C. S. (2022). Life course transitions and changes in network ties among younger and older adults. *Advances in Life Course Research, 52,* 100478.

Zhang, L. (2018). Veterans going to college: Evaluating the impact of the Post-9/11 GI Bill on college enrollment. *Educational Evaluation and Policy Analysis, 40*(1), 82–102.

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 focused on the social support networks
and career pathways of an increasingly important
segment of the U.S. college student population: military
service members and veterans.

Contact Us

Dr. Ross Benbow, Principal Investigator
University of Wisconsin-Madison
Wisconsin Center for Education Research
551J Educational Sciences Building
1025 W. Johnson Street
Madison, WI 53706
vetways@wcer.wisc.edu
vetways.wceruw.org

*Cover photo from UW-Madison University Communications. Editing
by Christine Wenc/Wisconsin Center for Education Research. Graphic
design by Janet Trembley/Wisconsin Center for Education Research.*

Wisconsin Center for Education Research
SCHOOL OF EDUCATION
UNIVERSITY OF WISCONSIN–MADISON