UNMC COLLEGE OF PUBLIC HEALTH
CENTER FOR HEALTH POLICY

Health-Related Risk Factors of Veteran- and Military-Connected Students in Nebraska Schools

David Palm, PhD
Teri Clark, MEd
Susan Bockrath, MPH
Erin Johnson, BA
Shinobu Watanabe-Galloway, PhD
Valerie Pacino, MPH

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SUMMARY

- Children of military service members and Veterans are…
  - more likely to report worse mental health status when compared to their peers who are not connected to the military. For example, a larger percentage of students from military-connected families who participated in the 2018 Nebraska Risk and Protective Factor Student Survey reported that they considered attempting suicide (21% vs. 15%), attempted suicide (5% vs. 3%), and engaged in self-harm by hurting or injuring themselves on purpose (16% vs. 12%).
  - more likely to "currently" and "ever" use alcohol, tobacco, and prescription drugs when compared to their peers who are not connected to the military.
- Students from military-connected families living in rural areas are more likely to report adverse health behaviors (e.g., current tobacco use [12% vs. 8%]) and more suicide ideation (21% vs. 16%) and attempts (6% vs. 4%) when compared to their urban peers.
- Organizations from the civilian sector (e.g., public health, healthcare, education) can develop specialized expertise in military culture and use data on military connection to improve the effectiveness of their work with military-connected families in communities.

INTRODUCTION

While the health status of currently-serving military members is well studied, the health disparities of the families of current service members, Veterans, and Veteran families are often overlooked or unknown. Research on the status of family members (spouses, significant others, and children) of Veterans is particularly limited. This lack of information about Veteran families is troubling given mounting evidence suggesting that those who currently serve or have ever served in the military and their families (in this brief, collectively referred to as "military-connected") disproportionately suffer from some negative risk factors and outcomes when compared with the general population.

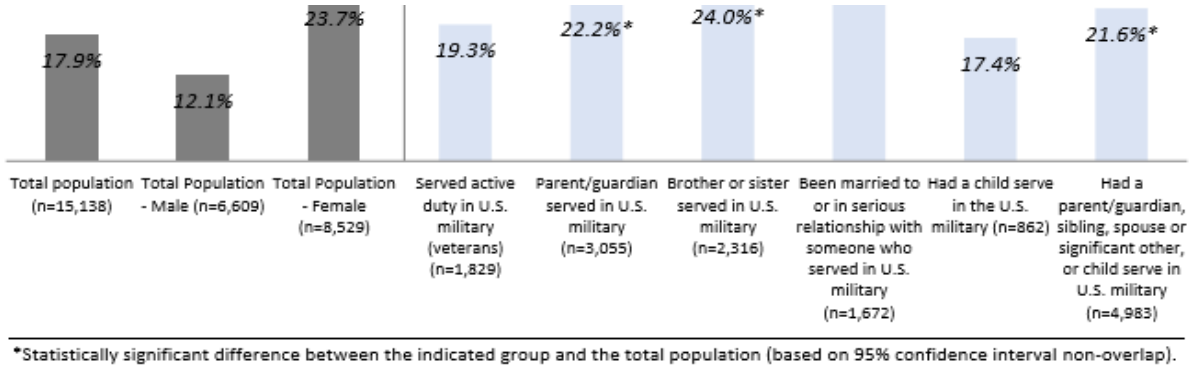
The suicide rate for Veterans is 1.5 times the rate of non-Veterans and social isolation has emerged as one of the social determinants that drive this statistic (Russel, et al., 2020). Another study concluded that Veterans experience more mental health conditions, substance abuse disorders, and post-traumatic disorders than the general population (Gale, et al., 2019). Gale and colleagues found that in comparison with urban Veterans, rural Veterans tend to have lower rates of mental health disorders, but they generally report a lower quality of life and greater disease burden. This discrepancy is likely due in part to the barriers in accessing health care because of transportation challenges and fewer specialty care options and local providers (Gale, et al., 2019). A recent Government Accountability Office (GAO) report indicated a wide disparity in the percentage of individuals in the general population versus Veterans who received any substance use disorder treatment in the past year. According to the 2017 National Survey on Drug Use and Health, 1.5% of individuals 18 or older received any substance use disorder treatment in the past year. By comparison, 8% of Veterans obtained substance use disorder treatment services from the Veterans Health Administration (VA) that year (GAO, 2019).

Using data from the 2016 Behavioral Risk Factor Surveillance System (BRFSS), a Nebraska study found significant differences between military-connected adults (including Veterans and family members) and those without a military connection for mental health disorders. For example, military-connected spouses and significant others appeared to be more affected by mental health issues such as depression. In the spouse and significant other group, 17.0% reported that their mental health was not good on 14 or more of the past 30 days as compared to only 9.6% for the overall population, a statistically significant difference.

In addition, Figure 1 shows that nearly one in five with a military connection (19.3%) indicated they had "ever been told they had depression" but only 17.9% of the total population responded in this way. Significantly higher rates of depression were also reported by military-connected spouses and significant others (29.7%), military-connected parents and guardians (22.2%), and military-connected siblings (24.0%) (Nebraska Association of Local Health Directors, 2017).

This report examines the differences in health-related indicators between students who have a military connection (defined as being a child whose parent or caregiver ever served in the military) and those students who do not have this connection. We found that children with military connections were significantly more likely to engage in risky health behaviors and be affected by mental health issues than was the case for children without military connections.

Figure 1. Ever Told They Had Depression, Total Population and Military Connectedness, Nebraska BRFSS, 2016.



*Statistically significant difference between the indicated group and the total population (based on 95% confidence interval non-overlap).

METHODS

The data for this study were based on the 2018 Nebraska Risk and Protective Factor Student Survey (NRPFSS). The NRPFSS survey is conducted every-other-year with Nebraska students in the 8th, 10th, and 12th grades to learn about student health behaviors (including alcohol, tobacco, and illicit drug use; delinquent behaviors, bullying) and risk factors that predispose youth toward problematic behaviors. In 2018, respondents were asked if during any time in their life, if any of their parents or caregivers served in the military. Students that responded “yes” to this question will be referred to as military-connected for the remainder of this brief. This group includes students with Veteran and/or currently-serving parents and guardians. Chi-square tests were conducted to compare the two groups.

STUDY RESULTS

Of the total 21,113 respondents who completed the survey, 4,984 were from military-connected families and 16,129 were from non-military families (Table 1). Although the total number of survey participants represents about 31% percent of all students in these three grades, the number of respondents is sufficient to develop tests of statistical significance. A slightly higher percentage of students from military-connected families were male (53% vs. 49%), and there were slightly lower percentages of students from military-connected families who indicated they were Hispanic (13% vs. 15%) or Non-Hispanic Black (0.5% vs. 0.6%). Finally, students from military families were less likely to be living with both parents (56% vs. 71%) and more likely to be living with one parent or one parent and a stepparent.

Table 2 summarizes selected mental health conditions of students from military-connected and non-military-connected families. For all conditions, there were significant differences in the mental health status of students from military-connected versus non-military-connected families. More specifically, students from military-connected families reported poorer mental health status than their non-military-connected peers. For example, a higher percentage of students from military-connected families reported feeling sad or hopeless (38% vs. 31%), considered attempting suicide (21% vs. 15%), attempted suicide (5% vs. 3%), and engaged in self-harm by hurting or injuring themselves on purpose (16% vs. 12%). Finally, students from military-connected families were more likely to indicate they

Table 1. Demographic Characteristics of Students from Military and Non-Military Families: NRPFSS 2018[a]

	Military Families (n=4,984)		Non-Military Families (n=16,129)	
	Number	Percent	Number	Percent
Grade[b]				
8th	2,445	49%	6,008	37%
10th	1,462	29%	5,214	32%
12th	1,076	22%	4,907	30%
Gender				
Male	2,666	53%	7,826	49%
Female	2,318	47%	8,295	51%
Race/Ethnicity[c]				
Hispanic	651	13%	2,347	15%
Non-Hispanic Black	25	0.5%	98	0.6%
Non-Hispanic White	1,581	32%	5,089	32%
Non-Hispanic Other	2,690	54%	8,440	53%
Living with[d]				
Both parents	2,803	56%	11,411	71%
One parent or one parent and stepparent	1,831	37%	4,125	26%
Other	331	7%	590	4%

a. Percentages in table do not add to 100% due to rounding.
b. Small groups of students in the 7th, 9th, and 11th grades completed this survey, and these students were added to those in the grade above.
c. "Other" group includes students who selected Asian, American Indian/American Native, Alaska Native, Pacific Islander or Other race category.
d. "Other" group includes students who reported to have been living in group home, with foster family or having other living arrangements.

Table 2. Mental Health-Related Conditions of Students from Military and Non-Military Families, NRPFSS 2018

	Military Families (n=4,984)		Non-Military Families (n=16,129)		P-Value
	Number	Percent	Number	Percent	
Past week, felt hopeful					
Strongly disagree or disagree	1,227	25%	3,470	22%	0.0002
Agree or strongly agree	3,729	75%	12,607	78%	
Can't sleep					
Always or most of the time	1,151	23%	2,979	19%	<0.0001
Sometimes, rarely or never	3758	77%	13,043	82%	
Sad or Hopeless					
Yes	1,849	38%	4,987	31%	<0.0001
No	3,080	63%	11,022	69%	
Considered attempting suicide					
Yes	1,012	21%	2,417	15%	<0.0001
No	3,914	80%	13,582	85%	
Attempted Suicide					
Yes	266	5%	543	3%	<0.0001
No	4,662	95%	15,473	97%	
Self-harm					
Yes	806	16%	1,928	12%	<0.0001
No	4,119	84%	14,067	88%	
Any Bullying					
Yes	3,049	61%	9,131	56%	<0.0001
No	1,943	39%	7,039	44%	

had experienced bullying (61% vs. 56%). All differences were significant at the 0.0001 level.

Table 3 compares substance use between students from military-connected and non-military-connected families. When current and lifetime alcohol, tobacco, and prescription drug use were analyzed between students from military-connected and non-military-connected families, a similar pattern emerged. In this case, students from military-connected families were more likely to use alcohol, tobacco, and prescription drugs. For example, the lifetime use of alcohol for students from military-connected families was significantly higher than students from non-military-connected families (45% vs. 43%, p <0.0001). Similar results were found for lifetime tobacco use (20% vs. 16%, p<0.0001) and lifetime prescription drug misuse (5% vs. 4%, p =0.0002).

Table 4 reports the results of selected health-related behaviors for students from military-connected and non-military-connected families in both urban and rural areas. The results indicate that, in general, students from military-connected families have more adverse health behaviors and mental health disorders in both urban and rural areas, but they are more pronounced in rural areas. For example, in rural areas 12% of the students from military-connected families are currently using tobacco as compared to 8% their non-military-connected peers. In urban areas, the percentage of students from military-connected families is only slightly higher than students from non-military-connected families (6% vs. 5%). Similar results were found for the self-harm and "past week, felt hopeful" measures.

In both urban and rural areas, the percentages of students from military-connected families who considered attempting suicide and attempted suicide was higher than for students from non-military-connected families. In urban areas, 19% of the students from military-connected families considered attempting suicide relative to 13% of the students from non-military-connected families. The corresponding percentages in rural areas

Table 3. Current and Lifetime Substance Use of Students from Military and Non-Military Families, NRPFSS 2018

	Military Families (n=4,984)		Non-Military Families (n=16,129)		P-Value
	Number	Percent	Number	Percent	
Current Alcohol Use					
Yes	1,042	21%	3,165	20%	0.0484
No	3,925	79%	12,944	80%	
Lifetime Alcohol Use					
Yes	2,217	45%	6,901	43%	<0.0001
No	2,758	55%	9,228	57%	
Current Tobacco Use					
Yes	512	10%	1,180	7%	<0.0001
No	4,458	90%	14,931	93%	
Lifetime Tobacco Use					
Yes	1,002	20%	2,627	16%	<0.0001
No	3,969	80%	13,496	84%	
Current Prescription Drug Use					
Yes	99	2%	203	1%	0.0001
No	4,858	98%	15,898	99%	
Lifetime Prescription Drug use					
Yes	270	5%	673	4%	0.0002
No	4,697	95%	15,418	96%	

Table 4 – A Comparison of Selected Health-Related Behaviors and Disorders for Students from Military and Non-Military Families in Urban and Rural Areas, 2018

	Military Families (n=4,984)		P-Value	Non-Military Families (n=16,129)		P-Value
	Number	Percent		Number	Percent	
Currently Using Alcohol			0.0066			0.5081
Urban	243	18%		861	19%	
Rural	789	22%		2,314	20%	
Currently Using Tobacco			p<0.0001			p<0.0001
Urban	87	6%		217	5%	
Rural	425	12%		963	8%	
Considered Attempting Suicide			0.0319			0.0003
Urban	253	19%		593	13%	
Rural	759	21%		1,824	16%	
Attempted Suicide			0.286			0.0013
Urban	66	5%		117	3%	
Rural	200	6%		426	4%	
Self-Harm			0.0005			0.0002
Urban	182	13%		464	11%	
Rural	624	18%		1,464	13%	
Past week, Felt Hopeful (Disagree)			0.0003			0.0002
Urban	290	21%		870	20%	
Rural	937	26%		2,699	22%	
Any Bullying			0.0173			0.1009
Urban	805	58%		2,567	58%	
Rural	2,244	62%		6,564	56%	

Table 5 – A Comparison of Selected Health-Related Behaviors and Disorders for Male and Female Students from Military and Non-Military Families, 2018

	Military Families (n=4,984)		P-Value	Non-Military Families (n=16,129)		P-Value
	Number	Percent		Number	Percent	
Currently Using Alcohol			0.4995			0.3915
Male	546	20%		1,515	19%	
Female	495	21%		1,653	20%	
Currently Using Tobacco			<0.0001			<0.0001
Male	325	12%		738	9%	
Female	185	8%		438	5%	
Considered Attempting Suicide			<0.0001			<0.0001
Male	379	14%		738	9%	
Female	630	27%		438	5%	
Attempted Suicide			<0.0001			<0.0001
Male	98	4%		178	2%	
Female	167	7%		360	4%	
Self-Harm			<0.0001			<0.0001
Male	295	11%		571	7%	
Female	510	22%		1,344	16%	
Past week, Felt Hopeful (Disagree)			<0.0001			<0.0001
Male	857	22%		1504	19%	
Female	636	28%		1942	24%	
Any Bullying			<0.0001			<0.0001
Male	1471	55%		3891	50%	
Female	1576	68%		5219	63%	

were 21% for military-connect students and 16% for their non-military-connected peers. Finally, there were two instances where the percentages were higher for students from non-military-connected families. In urban areas, the percentage of students from military-connected families currently using alcohol was 18% as compared to 19% for students from non-military-connected families. Also, the percentage of students from rural military-connected families that experienced bullying was 38% which was significantly below the percentage of 44% for students from non-military-connected families.

Table 5 illustrates the differences between male and female students from military-connected and non-military-connected families for selected health-related conditions. When comparing the percentages for urban and rural and male and female students from these two groups, relatively minor differences were found although the rural and female percentages were slightly higher. However, male students from both military-connected and non-military-connected families were more likely to use tobacco, and these differences were significant at the 0.0001 level. For both suicide indicators, there were major differences between male and female students from military-connected and non-military-connected families. For example, 27% of female students from military-connected families reported that they considered attempting suicide as compared to 14% for males. For students from non-military-connected families, the respective percentages were 19% and 11%. Similar results were found for self-harm. Female students were more likely to report self-harm than male students.

CONCLUSION

Students from families of current military service members and/or Veterans are more likely to engage in risky health behaviors and are more affected by mental health problems than their peers who are not connected to the military. These results from Nebraska are consistent with studies elsewhere. For example, a 2013 study in Iowa examined the association between military deployment of a parent and the use of alcohol and drugs among children who were in grades 6, 8, and 11. This study found that the rates of alcohol use, binge drinking, marijuana use, other illegal drug use, and prescription drug misuse were greater for children of currently or recently deployed parents than for children of parents who were not in the military (Action, et al., 2013). In California, Gilreath and colleagues examined the prevalence and correlates of lifetime and recent substance use in a normative sample of youth in grades 5, 7, 9, and 11 who were either connected or not connected to the military. Using multivariate analysis, the study found that an increase in the number of deployments was associated with a higher likelihood of lifetime and recent use of alcohol and drugs but not tobacco use (Gilreath, et al., 2013). The results from another California study indicated that military-connected youth had greater odds of substance use, experienced more physical violence and nonphysical harassment, and carried more weapons (Sullivan, et al, 2015). These studies point to the impact of the unique experiences of military-connected youth, such as deployments and absences, frequent moves, and parental figures dealing with traumatic experiences (Easterbrooks et al., 2013). Although some recent studies have focused on the health and wellbeing of children of Active Duty military service members (e.g., Elizabeth Hisle-Gorman, et al., 2019), children of National Guard and Reserve members as well as children of Veterans are often overlooked. These children and their families seldom reside on bases among families with similar

experiences. Instead, they are scattered across communities and participate in education and health care systems that often are unaware of their connection to the military and its potential impact. In Nebraska, this is an important consideration because the high proportion of Guard members and Reservists (48%) [Thompson, et al., 2019].

This current study also found that youth from military-connected families who live in rural areas were more likely to currently use alcohol and tobacco, consider attempting and attempt suicide, engage in self-harm, feel less hopeful, and experience bullying. Overall, male students tended to use tobacco more than females, but females were more likely to have considered attempting suicide or attempted suicide and to have engaged in self-harm. Although further studies are needed to determine the factors driving these tendencies, this study found strong associations between having a parent or guardian who currently serves in or is a Veteran of the military and the likelihood that student respondents engage in more risky health behaviors and report serious mental health issues.

Because of a general respect for military service, many expect that military children (like their parents) have a strong resilience, helping them to cope with adversity and thrive. However, most research on military children has taken a deficit approach, and very few studies have examined the strengths that help them thrive (Easterbooks, et al., 2013). While the military-connected youth in this study may report higher adverse risk factors, targeted interventions may help. Kudler and Porter have called for efforts to build resilience of military children by way of "…a public health model that harnesses the strength of the communities around [military families]…" and "…looks beyond the clinical care of individual military children to define broader interactions that either promote or threaten their wellbeing" (Kudler and Porter, 2013). Nebraska is home to promising models for developing communities' capacity to identify and respond to the unique challenges and opportunities within military culture through education and capacity building across civilian systems of care. These include local public health systems approaches coupled with training strategies that build community-wide knowledge of military culture. More information about these approaches can be found at the Nebraska Association of Local Health Directors' website:

https://state.ne.networkofcare.org/ph/model-practice-detail.aspx?pid=6243

The findings of this study point to the importance of using these kinds of approaches to improve the health and wellbeing of young members of military-connected households. .

LIMITATIONS

The NRPFSS data are based on self-reporting which may lead to underestimates of alcohol and tobacco use and mental health disorders. Military connectedness data were only available for the 2018 NRPFSS so long-term trend data could not be analyzed. It was also not possible to identify the type of military connection (e.g., currently serving Active Duty service member, Guard member, or Reservist). This limitation makes it more difficult for public health officials and policymakers to identify issues and tailor interventions accordingly. It was also not possible to know if the military-connection included a deployment by the parent or guardian. On this final point, the Veterans Administration found "that no deployment-related factors—such as combat experience, the cumulative number of days deployed, or the number of deployments—were associated with an

increased risk of suicide" (Veterans Administration, 2018).

CONCLUSION

The results of this study add to previous findings that children from military-connected families are at higher risk for adverse health outcomes. We found that students' poor mental wellbeing (e.g., considered/attempted suicide) is strongly associated with having parents or guardians who are military service members or Veterans. Students from military-connected families, as compared to their peers without military connection, were more likely to use alcohol, tobacco, and prescription drugs. In comparison with urban students from military families, rural military-connected students used alcohol and tobacco at higher rates and had more mental health related issues. When responses from male and female students were compared, all males (from military and non-military families) were considerably more likely to use tobacco. However, all females (from military and non-military families) considered attempting suicide, attempted suicide, and engaged in self-harm more often than males.

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AUTHOR INFORMATION

David Palm, PhD is an Associate Professor in the Department of Health Services Research and Administration in the UNMC College of Public Health and the Director of the UNMC Center for Health Policy.

Teri Clark, MEd is the VetSET Program Director with the Nebraska Association of Local Health Directors.

Susan Bockrath, MPH is the Executive Director of the Nebraska Association of Local Health Directors.

Erin Johnson, BA is a Research Assistant and an MPH student in the Department of Epidemiology in the UNMC College of Public Health.

Shinobu Watanabe-Galloway, PhD is a Professor in the Department of Epidemiology at the UNMC College of Public Health.

Valerie Pacino, MPH is a PhD student in the Department of Health Services Research and Administration.

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CONFLICT OF INTERESTS

None

DISCLAIMER

The views expressed herein are those of the authors and do not necessarily reflect the views of collaborating organizations or funders, or of the Regents of the University of Nebraska.

CONTACT INFORMATION

David Palm, PhD
Director
UNMC Center for Health Policy
984350 Nebraska Medical Center
Omaha, NE 68198-4350
david.palm@unmc.edu

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UNMC Center of Health Policy
984350 Nebraska Medical Center
Omaha, NE 68198-4350
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