

Strengthening the Pipeline from Service to STEM

A series focusing on the future of Women Veterans in STEM



ARTICLE 5 of 5

This paper was developed as part of a National Science Foundation-funded project seeking to improve participation by women veterans in the STEM workforce. It is the first of five papers aimed at providing a snapshot of what is currently known about women veterans' participation in the STEM workforce, factors that affect their participation, and promising practices to increase participation and success in these fields. A convening in early 2021 will bring together key stakeholders to discuss the implications of these findings and how to best strengthen and scale the impact of existing initiatives to support women veterans' success.

Issues Affecting the Health and Well-being of Women Veterans in STEM Careers

Defining health and well-being

There are a number of factors that can potentially affect women veterans' health and well-being, from their experiences in service and as they transition and reenter civilian life, but it is important to first define what we mean when we talk about health and well-being.



The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."¹ The Office of Disease Prevention and Health Promotion notes that there are a number of different factors that affect health, including personal, social, economic, and environmental.² There many different definitions of well-being; most agree that at a minimum it includes physical health, presence of positive emotions, the absence of negative emotions along with a general satisfaction with life, and the feeling of fulfillment.³ Just as there are factors that contribute to one's health, there also are fac-

tors or dimensions of wellness that contribute to and aim to

improve an individual's well-being. The Substance Abuse and Mental Health Services Administration promotes eight dimensions of wellness, which include the following:

Emotional—developing skills and strategies to cope with stress;

Financial—satisfaction with current and future financial situations;

Social—developing a sense of connection and a robust support system;

Spiritual—the search for meaning and purpose in the human experience;

Occupational—satisfaction and enrichment derived from one’s work;

Physical—recognizing the need for physical activity, diet, sleep, and nutrition;

Intellectual—recognizing creative abilities and finding ways to expand knowledge and skills; and

Environmental—reinforcing health by occupying pleasant, stimulating environments that support well-being.⁴

Keep these definitions in mind as we explore the needs of women veterans related to their health and well-being.



What specific challenges to health and well-being do women veterans face when seeking careers in STEM?

Women veterans face additional demands in regard to employment and family life.

Women veterans often face overall health and well-being challenges that are similar to those of their male counterparts. Both women and men veterans may experience confusion of identity during the transition to civilian life or difficulty connecting to civilian culture without sufficient support. However, women veterans also experience additional expectations and demands in their family lives and in their work. These compounding issues include societal demands and traditional gender role expectations.

Trauma, PTSD, and MST

Any veteran, man or woman, may experience trauma related to military service and may develop subsequent PTSD. Both also may be subjected to sexual assault or harassment, leading to what the Veterans Administration refers to as military sexual trauma (MST), but women experience this far more than do men. Data from the VA’s universal screening program, in which every veteran seen for healthcare is asked about MST, show that in fiscal year 2018, 29.1% of female veterans reported a history of MST, compared to 1.6% of male veterans. Both PTSD and MST can have negative effects on the veteran’s mental and physical health, even after many years.⁵

Holding on to Identity

Like male service members, women veterans may find their sense of identity challenged as they attempt to adjust to civilian life. They may feel “different” and isolated from their friends and family, while at the same time family members may expect them to resume their former civilian roles and return to behaving like their “old selves.” In addition, women veterans with children are

often expected to become primary caregivers, even if they have a partner or a full-time job.

Another challenge to the woman veteran’s identity comes from widespread sexism in employment practices. Although women veterans have higher levels of education than do their male counterparts, they are paid less than men and their unemployment rate is higher than that of male veterans.⁶ Women who were successful and valued in the military can find it difficult to come to terms with civilian society’s overall disregard of their abilities and experience. Black, Indigenous and women veterans of color are even further challenged by the pervasive racism they must confront, including during their military service, where they are less likely than their white counterparts to qualify for highly technical MOS positions.⁶

Lack of Support

It can be challenging for women veterans to find and secure access to medical providers, particularly for female healthcare issues. Navigating the terms of their veterans benefits can also be challenging, and the fact that women veterans tend to have less social and financial support than do male veterans can present additional barriers when they seek treatment.⁷ These health care access problems and disparities are even more pronounced in rural areas.⁸

How can service-related mental health issues pose challenges to women veterans seeking STEM employment?

Unemployment may have a greater negative impact on veterans than on civilians.

The relationship between work and mental health is complex. A person's job gives structure to many of their waking hours, and is a source not only of income but of social standing in their community. There is a general consensus in psychological and sociological literature that work, whether paid or unpaid, can positively affect one's mental health.

Conversely, unemployment can have a negative affect on a person's self-esteem and overall mental health, such as when it results in depression. This can become a negative feedback loop, since research has shown the negative effects of mental health disorders on obtaining and maintaining employment. Women veterans who are unemployed may become anxious or depressed; women veterans with depression or anxiety will have more challenges in finding a job.

Unemployment may have a greater negative impact on veterans as compared to civilians.⁹ Among veterans, unemployment is associated with undiagnosed and untreated post-traumatic stress disorder,¹⁰ suspected PTSD,¹¹ diagnosed PTSD,¹² depression and affective disorders, and drug use and dependence.^{11, 12, 13} Given that women veterans experience higher unemployment rates than do male veterans, it is particularly important that they be supported in seeking and gaining employment.

What is satisfying, rewarding employment, and how can it protect against negative health outcomes?

The effects of satisfying employment extend well beyond the workday.

A rewarding and satisfying career is defined by the effect the position has on the employee. From the start of their service, veterans are instilled with core values that speak of service before self, integrity, loyalty, duty, respect, and personal courage. It makes sense then, that satisfying employment after service would encompass at least some of these same values. Jobs with intrinsic meaning provide greater satisfaction, and people who choose occupations based on their own skills, values, attributes, and personalities are more likely to find satisfaction in their chosen career path.

Job satisfaction is closely tied to happiness on a personal level¹⁴ and satisfaction in a position over several years can create more stability and consistent happiness over time. The satisfaction of a meaningful job can provide a veteran with positive stability¹⁵ and counter negative health outcomes such as depression, suicide, post-trauma mental health issues, anxiety, and substance abuse.¹⁶ Negativity at work can increase disagreeable responses to the outside world after work,¹⁷ but job satisfaction also can spill over into nonwork life and can lead

to positive moods outside of work. In this way, satisfying employment can be a protective shield against negative health outcomes.

When counseling women veterans interested in STEM employment, it's important to take a holistic view of their personal values as well as their career goals, particularly for those who are simultaneously developing their identity, purpose, and interpersonal connections.¹⁸



What resources exist to support and build resilience among women veterans?

Women veterans may have difficulty finding groups and services designed to help them.

There is a wide variety of resources to support women veterans' health and well-being, including hotlines, family services, alternative therapies, transition services, veteran benefits, legal services, and housing and homelessness organizations. Most are available free of charge to veterans, although a Certificate of Release or Discharge from Active Military Duty (Department of Defense Form 214), otherwise referred to as a DD 214, may be required. But it can be difficult for women veterans to find appropriate services in their area, or even to know what resources could best serve their individual needs. The following list gives just a few examples of the services that are available nationally for women veterans.

Women Veterans Alliance—A networking organization focused on providing community both on- and off-line, including local networking groups, community events, and national conferences.

Women Veterans Network (WoVeN)—Provides community, information, education, and resources to improve women veterans' quality of life, including help with life transitions and with mental health issues such as PTSD.

Service Women's Action Network (SWAN)—A network for women who have served or are currently serving in the military. Offers a wide variety of programs and resources, including alternative therapies and mentoring retreats.

Veteran's PATH—programs-page-women.shtml Women's Programs provides resources for women who feel unnoticed as veterans. Offers retreats to help with recovery and healing from PTSD or MST and resources for adjusting to civilian life.

In Summary

These findings will provoke national dialogue on the importance of policies and programs to support women veterans in seeking greater economic opportunities through STEM work. We can leverage the unique expertise of these individuals only by providing the additional support they need to be able to successfully join the STEM workforce. While such support exists in isolated pockets and instances, it is critical that our nation create opportunities for all female veterans. We seek to bring key stakeholders together for this timely and critical discussion, and invite those who are interested to join us.

For more information about the project, check out our website: womenvetsstem.edc.org

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