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Mental Health and Educational Outcomes among Current and Former National Guard and Reserve Soldiers

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Abstract

Objective: This study examined the relationships between mental health and educational outcomes among student service members and veterans (SSM/Vs).

Participants: Current/former Reserve and National Guard (R/NG) soldiers who were enrolled in school, college, or university in the past year (n=130). Data were collected in 2014-2016.

Methods: Exact logistic regression models separately examined the impact of anxiety, depression, anger, and PTSD on quitting/flunking in the past year. Final models controlled for sex and deployment status.

Results: In final models, anxiety (OR: 1.14; 95% Confidence Interval [CI]: 1.05, 1.23; p<.01), anger (OR: 1.12; 95% CI: 1.04, 1.21; p<.01), and PTSD (OR: 1.06; 95% CI: 1.02, 1.10; p<.01) were associated with a higher odds of quitting/flunking school, college or university. Depression was not associated with quitting/flunking.

Conclusions: Anxiety, anger, and PTSD are associated with quitting/flunking among SSM/Vs. Interventions tailored to this population that address mental health needs may improve the likelihood of academic success.

Keywords

Veterans; Mental Health; Academic Success

Introduction

Since 2011, approximately 1 million eligible student service members and veterans (SSM/Vs) use GI Bill educational benefits each year, 53% of whom are undergraduate students.¹ The number of SSM/Vs has grown substantially since the introduction of the post-9/11 GI Bill.² SSM/Vs' ability to succeed in academic settings is significant for their overall success in reintegrating after military service.³ In general, higher education has been

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related to numerous economic, employment, and health-related benefits, including greater lifetime earnings, healthier lifestyle behaviors (e.g., exercise, avoidance of smoking), greater job satisfaction, and increased civic involvement.^{4,5}

However, SSM/Vs may face challenges in higher education settings,⁶ including difficulties balancing family, work, and school and have been found to be less engaged in campus life.⁷ Additionally, SSM/Vs report feeling that the higher education setting is chaotic and disorganized, perhaps due to a perceived conflict between highly ordered structured military life and much less structured civilian institutions.^{7,8} On average, SSM/Vs tend to have a lower GPA and report a lower sense of belonging compared to civilian students.⁷ In spite of this, some limited evidence has demonstrated that military service may also provide some resiliency to SSM/Vs; one study found that soldiers with hazardous duty experience (e.g. combat) were less likely to report feeling overwhelmed than civilian students.⁹

Mental health among SSM/Vs has been a topic of widespread study and attention. A national study of SSM/Vs found that 46% reported suicidal ideation, and that PTSD among SSM/Vs was associated with suicide attempts, moderate anxiety, and moderate-severe depression.¹⁰ Studies have documented that mental health symptoms among SSM/Vs are related to worse outcomes generally, in terms of substance use and risky behaviors. In particular, PTSD symptoms among SSM/Vs have been found to be related to alcohol problems,^{11,12} binge and high risk drinking,^{13,14} alcohol-related consequences,¹¹ and increased likelihood of being in a physical fight.¹⁴

Many studies have looked at mental health among SSM/Vs and how it relates to intermediate educational outcomes including: GPA,^{7,11} adjustment to higher education settings,^{15,16} and academic motivation.¹⁷ PTSD among SSM/Vs has been linked to lower GPA¹¹ and more feelings of alienation on campus.¹² While this work has looked at factors which *could potentially* lead to academic failure, there has been limited examination of actual educational outcomes among SSM/Vs. In response, researchers have recently called for further studies, to examine the impact of mental health on academic functioning,¹⁸ as poor functioning may lead to failure, and therefore lower well-being, economic and employment opportunities.³⁻⁵

Therefore, the goal of this study was to examine the relationship between mental health symptoms (anxiety, anger, depression, and PTSD) and educational outcomes, namely the likelihood of quitting/flunking out of school, college, or university in the past year among a sample of current and former Reserve and National Guard (R/NG) soldiers.

Methods

Participants and Procedure

The present study included a subset of data drawn from SAFETY (Soldiers and Families Excelling Through the Years), an ongoing survey-based study of R/NG soldiers and their partners. Participants were recruited over a 15-month period (Summer 2014 - Fall 2015) from units across New York State. Efforts were made to purposefully sample from National Guard and Reserve units across the region, with specific attention to including a diversity of

unit types and geographic areas. Research staff made arrangements with unit commanders to attend weekend training drills, during which they provided an overview of the project, responded to questions, and conducted eligibility screening. Units from every division in the geographic region (upstate and western New York) participated.

Due to the aims of the larger study, which included examining substance use and marital relationships, participants were screened on 6 inclusion criteria: (i) The couple is married or living as if married; (ii) 1 partner is a current U.S. Army Reserve and National Guard soldier; (iii) the soldier is age 18 to 45; (iv) both partners speak and understand English; (v) both partners are willing and able to participate; and (vi) both partners have had at least 1 alcoholic beverage in the past year.

Participants completed 3 online surveys (baseline with 2 yearly follow-ups) administered through a secure, HIPAA-compliant online survey programming software, StudyTrax™, which allowed for data encryption. For their time, soldiers and their partners received a \$60 check for baseline and \$70 for each of the follow-ups (\$200 per person/\$400 couple over the study period). The protocol was approved by the Institutional Review Board, the Army Human Research Protections Office, the Office of the Chief, Army Reserve, and the Adjutant General of the National Guard. All participants were provided with an informed consent document; only after agreeing to participate in the study were they able to access the online survey. Full study procedures have been described elsewhere.¹⁹⁻²⁵

Baseline data from current/former service members who identified having attended a school, college or university in the last year were included in the present analysis (n = 130 SSM/Vs; 27.2% of the total study sample). On average, participants were 29.4 (SD = 5.7) years old and were predominantly male (76.9%) and non-Hispanic white (74.6%), with a median family income bracket of \$40,000 - \$59,999. These SSM/Vs served an average of 8.2 (SD = 5.0) years in the military. Half (59.2%) had previously been deployed, with an average of 1.6 deployments. Nearly the entire sample (93.9%) had completed at least some college education at baseline.

Measures

Mental health symptoms were assessed using a variety of widely accepted tools. Anxiety was assessed with 10 items based upon the “emerging measures” from DSM-5.²⁶ The items examine the past 7 days on a 5-point scale ranging from 0 (Never) to 4 (All of the time) (Range: 0-40; alpha in our study sample: .91). Depressive symptoms were assessed using the Patient Health Questionnaire 8 (PHQ-8),²⁷ a tool used for screening, diagnosing, monitoring, and measuring the severity of depression over the past 2 weeks with 8 items that range from 0 (Not at all) to 3 (Nearly every day) (Range:0-24; alpha in our study sample: .91). Anger was assessed using the PROMIS Anger scale,²⁸ an 8-item self-rated measure of anger over the past seven days, scored on a 5-point scale ranging from 1 (Never) to 5 (Always) (Range: 8-40; alpha in our study sample: .94). The PTSD Checklist,²⁹ a 20-item self-report measure based upon DSM-5, assessed symptoms of PTSD among these SSM/Vs (Range: 0-80; alpha in our study sample: .95). Our outcome was assessed using questions from the Psychiatric Epidemiologic Research Interview (PERI) Life Events Scale³⁰ and was counted if the SSM/V indicated that they had “quit or dropped out of school, college, or

university” or “flunked out of school, college, or university” in the past 12 months. Participants also identified their sex and whether or not they had ever deployed at the baseline assessment.

Data Analysis

Exact logistic regression models were used to examine the impact of each mental health factor (i.e. anxiety, depression, anger, PTSD), separately, on the likelihood of quitting or flunking out of school, college, or university in the past year. Due to significant amounts of research demonstrating a link between deployment and/or combat exposure and mental health problems^{31,32}, and accounting for the small numbers of females in our sample with combat exposure, final models controlled for deployment status (yes/no). Final models also controlled for sex due to qualitatively different military experiences for male versus female soldiers.

Results

Descriptive results

The prevalence of quitting/flunking out of school, college or university in the past year among these SSM/Vs was 12.3%. The mean anxiety score was 5.3 (SD = 5.8), with more than half of the sample (56.9%) having mild anxiety and 17.7% having moderate to severe anxiety. Nearly one quarter of the sample (23.9%) had mild depressive symptoms and 12.3% of these SSM/Vs had moderate to severe depression with an overall mean score of 4.4 (SD = 5.1). The mean anger score for this sample was 18.3 (SD = 7.2), which is higher than population samples.²⁸ Additionally, 6.2% of the sample met the criteria for a possible PTSD diagnosis (i.e. scored above the recommended cut-point of 31).²⁹

Regression results

The results of our unadjusted regression models are presented in Table 1.

In our final exact logistic regression models, controlling for sex and deployment, anxiety (OR: 1.14; 95% CI: 1.05, 1.23; $p < .01$) and PTSD (OR: 1.06; 95% CI: 1.02, 1.10; $p < .01$) were associated with a higher odds of quitting/flunking school, college or university in the past year (Table 1). Further, higher levels of anger (OR: 1.12; 95% CI: 1.04, 1.21; $p < .01$) were also associated with quitting/flunking in the past year. There was no association between depression and quitting/flunking school, college or university in the past year among SSM/Vs.

Comment

Our results demonstrate that mental health symptoms, including anxiety, anger and PTSD, are associated with quitting/flunking out of school, college or university for R/NG soldiers. Interestingly, depression did not show the same association. While studies have documented a relationship between PTSD and poor academic outcomes, such as GPA,^{7,11} among SSM/Vs there has been little examination of how other mental health conditions (e.g. anxiety and depression) in this population may also be related to academic functioning. Not only do these mental health symptoms contribute to more difficulty while enrolled in an

educational program, our results demonstrate that they may also be linked to failing to complete a program. In a national sample of civilian college students, anxiety and major depression were not related to college completion and the authors hypothesized that these disorders may not sufficiently interfere with functioning to have an impact, and that, in the case of case of anxiety, may even lead to higher achievement.³³ It is unclear why anxiety among SSM/Vs may be more problematic and further study is needed to understand these relationships.

Significantly, anger in our sample was related to quitting/flunking out of school, college, or university. While anger is reported in qualitative explorations of student veterans' experiences,^{34,35} there has been very limited examination of outcomes related to anger. To our knowledge, this inquiry is the first to document a link between anger symptoms and likelihood of quitting/flunking. Symptoms of anger are also not regularly addressed in mental health screening or education, meaning that individuals experiencing higher levels of anger, in the absence of other mental health symptoms or diagnoses, may not be recognized. Further study is needed to understand more fully how anger, in and of itself, relates to educational outcomes and identify the best ways to recognize and treat anger symptoms among SSM/V.

While the literature on student veterans as a whole is robust, most research focuses on functioning within the higher education setting itself, and does not examine longer range outcomes, such as completion/graduation. This study takes the next step by connecting mental health symptoms to likelihood of quitting/flunking. Given the long-term benefits of completing higher education for future employment and overall health and well-being,^{4,5} addressing factors that impact SSM/Vs' ability to succeed in educational settings is crucially important. SSM/Vs experience significant mental health challenges that may impact academic success;¹⁰ therefore, health care providers (on and off campus) should actively screen their patients for both veteran/military status and mental health symptoms, including anger. While there have been numerous calls for higher education institutions to identify effective ways to support SSM/Vs' mental health needs, to date there has been little work testing and implementing interventions. A model that provides integration across campus services, including wellness and mental health, faculty, staff, student affairs, and veterans' services offices is important for providing consistent, culturally sensitive support. Interventions, such as peer support models,³⁶ that are specifically tailored to the unique needs of this population may improve their likelihood of success in education, and thereby improve outcomes more broadly.

Limitations

These findings should be interpreted in the context of their limitations. First, information on the educational programs of participants was not available within this data. Future work in this area should take factors such as type of program (e.g. online vs. face to face), level of program (e.g. undergraduate vs graduate), and educational institution characteristics (e.g. private vs. public, 2-year vs. 4-year) into account. Findings presented here represent cross-sectional associations, and therefore causality cannot be determined. Finally, this work was conducted with a sample of married/living as if married R/NG soldiers who have had at least

1 drink in the past year, and therefore, findings may not be generalizable to all R/NG soldiers or SSM/V populations.

Conclusions

Addressing mental health symptoms among SSM/Vs may play a critical role in enhancing their ability to succeed in higher education settings. However, research in this area has been sparse.^{18,36} This study adds to our knowledge about the link between mental health and academic success among SSM/Vs and highlights not only commonly addressed conditions such as PTSD, but also points to the potential importance of anger for impacting SSM/Vs likelihood of quitting/flunking. Future work should longitudinally examine the impact of mental health symptoms, including anger, on academic success and identify and implement interventions that may help to buffer the impact of mental health symptoms in this population. Given the importance of higher education for improving economic and employment opportunities, which in turn impact overall well-being,^{4,5} it is essential that we conduct further research to facilitate SSM/Vs' success in these settings.

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Table 1.

Effects of Mental Health Symptoms on Quitting/Flunking School, College, or University among Student Service Members and Veterans

	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)
Anxiety	1.15 ^{***} (1.06, 1.24)	1.14 ^{**} (1.05, 1.23)
Sex		1.04 (0.20, 4.52)
Deployment Status		0.59 (0.15, 2.32)
Depression	1.07 (0.98, 1.16)	1.07 (0.98, 1.17)
Sex		1.18 (0.27, 4.49)
Deployment Status		0.49 (0.13, 1.74)
Anger	1.12 ^{**} (1.05, 1.21)	1.12 ^{**} (1.04, 1.21)
Sex		1.02 (0.21, 4.31)
Deployment Status		0.48 (0.12, 1.83)
PTSD	1.06 ^{**} (1.02, 1.10)	1.06 ^{**} (1.02, 1.10)
Sex		1.30 (0.28, 5.32)
Deployment Status		0.51 (0.13, 1.90)

p<0.001,

**
p<0.01,

*
p<0.05