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A Cross-Sectional Study of the Relationship between Previous Military Experience and Mental Health Disorders in Currently Serving Public Safety Personnel in Canada

Une étude transversale de la relation entre l'expérience militaire antérieure et les troubles de santé mentale chez le personnel présentement à l'emploi de la sécurité publique au Canada

Dianne L. Groll, PhD[1], Rosemary Ricciardelli, PhD[2], R. Nicholas Carleton, PhD[3], Greg Anderson, PhD[4], and Heidi Cramm, PhD[1]

Abstract

Objective: There is an increased incidence of some mental health disorders such as post-traumatic stress disorder (PTSD) in some members of the military and in some public safety personnel (PSP) such as firefighters, police officers, paramedics, and dispatchers. Upon retirement from the armed forces, many individuals go on to second careers as PSP. Individuals with prior military experience may be at even greater risk than nonveterans for developing mental health disorders. The present study was designed to examine the relationship between prior military service and symptoms of mental health disorders in PSP.

Methods: This is a cross-sectional, observational study. Data for this study were collected from an anonymous, web-based, self-report survey of PSP in Canada. Invitations to participate were sent to PSP via their professional organizations. Indications of mental disorder(s) and symptom severity were assessed using well-validated self-report screening measures.

Results: Of the survey respondents who provided this information, 631 (6.8%) had prior armed forces experience; however, not all responses were complete. Ex-military PSP reported significantly more exposure to traumatic events and were approximately 1.5 times more likely to screen positive for indications of PTSD, mood, anxiety, or acute stress disorders and to have contemplated suicide than those without prior armed forces experience.

Conclusions: In our study, individuals in PSP with prior service experience in the armed forces were more likely to screen positive for indicators of some mental health disorders. Accordingly, mental health practitioners should inquire about previous service in the armed forces when screening, assessing, and treating PSP.

Abrégé

Objectif : Il y a une incidence accrue de certains troubles de santé mentale comme le trouble de stress post-traumatique (TSPT) chez des membres des forces militaires et du personnel de la sécurité publique (PSP) comme les pompiers, les policiers, les ambulanciers et les répartiteurs. Lorsqu'ils prennent leur retraite des forces armées, beaucoup entreprennent une deuxième carrière comme PSP. Les personnes ayant une expérience militaire sont à risque encore plus grand que les

[1] Queen's University, Kingston, Ontario, Canada
[2] Memorial University of Newfoundland, Saint John's, Newfoundland and Labrador, Canada
[3] University of Regina, Saskatchewan, Canada
[4] Justice Institute of British Columbia, New Westminster, British Columbia, Canada

Corresponding Author:
Dianne L. Groll, PhD, Department of Psychiatry, Queen's University, 191 Portsmouth Ave., Kingston, Ontario, Canada K7M 8A6.
Emails: dianne.groll@queensu.ca; grolld@queensu.ca

non-vétérans de développer des troubles de santé mentale. La présente étude était conçue pour examiner la relation entre le service militaire antérieur et les symptômes des troubles de santé mentale chez le PSP.

Méthodes : Il s'agit d'une étude transversale par observation, dont les données ont été recueillies d'un sondage anonyme d'auto-déclaration en ligne du PSP au Canada. Les invitations à participer ont été envoyées au PSP par l'intermédiaire de leurs organisations professionnelles. Les indications de la gravité des troubles mentaux et des symptômes ont été évaluées à l'aide des mesures de dépistage auto-déclarées bien établies.

Résultats : Sur les répondants du sondage qui ont fourni cette information, 631 (6,8%) avaient une expérience antérieure des forces armées; toutefois, les réponses n'étaient pas toutes complètes. Les anciens militaires du PSP ont déclaré significativement plus d'exposition à des événements traumatisants, et étaient approximativement 1,5 fois plus susceptibles d'avoir un test positif en ce qui concerne les indications de TSPT, des troubles de l'humeur, anxieux, ou de stress aigu, et d'avoir contemplé le suicide que ceux n'ayant pas d'expérience antérieure des forces armées.

Conclusions : Dans notre étude, les personnes du PSP ayant une expérience de service antérieur dans les forces armées étaient plus susceptibles d'avoir un test positif en ce qui concerne les indications de certains troubles mentaux. Conformément, les praticiens de la santé mentale devraient s'enquérir du service antérieur dans les forces armées lorsqu'ils dépistent, évaluent et traitent le PSP.

Keywords
epidemiology, military, post-traumatic stress disorder, suicide, veteran

Several countries have reported that rates of mental disorders, in particular mood and anxiety disorders, in members of the armed forces are significantly higher than those in the general public.[1-3] Newer research reveals that the incidence of mental disorders such as anxiety, depression, and post-traumatic stress disorder (PTSD) also appear elevated among public safety personnel (PSP) such as fire fighters, police officers, paramedics, and dispatchers when compared to the general public.[4,5] Public safety services in several countries actively recruit ex-military members to capitalize on their significant training and experience.[6] For some public safety sectors, individuals with previous military service are favored as potential hires,[6,7] and in Canada, the Veterans Hiring Act stipulates that "a qualified veteran must be appointed to a job that was advertised to the public, before any other Canadian citizen."[8] This practice is supported by programs that convert military qualifications into civilian certifications.[9-12] Despite the common occupational overlap between PSP and military, there have been no studies of the incidence or severity of mental disorders in PSP with previous military service. Accordingly, the current study was designed to examine the relationship between prior military service and mental health disorders in PSP.

Methods

In the current study, we analyzed data collected from a cross-sectional survey of PSP in Canada. Details of data collection are described elsewhere[5]; however, in brief, participation was solicited through emails to currently serving PSP employed in correctional, fire, paramedic, or police services including dispatch. Data in English or French were collected using web-based, self-report survey methods. The survey included validated screening tools of mental health disorder symptoms with evidence of diagnostic discriminant validity. Potential participants were directed to a website where they were provided study details and given a unique computer-generated random code that allowed for repeated entry into the survey to facilitate their participation. Participants were not required to answer any question in order to proceed through the survey; however, participants were asked to confirm that questions left unanswered were done so intentionally. Among other demographic questions, participants were asked to identify whether they had prior military experience and were given the option of providing their rank. The survey was launched on September 1, 2016, and PSP could participate until January 31, 2017.

Self-Report Symptom Measures

Indications of mental disorder(s) and symptom severity were assessed using the well-validated, self-report screening tools described below. These screening tools are not diagnostic. A "positive screen" on any of the tools indicates that an individual has several symptoms or indicators associated with a disorder. Individuals would then need to be evaluated by a trained clinician to determine whether they have a specific mental disorder.

PTSD was assessed using the PTSD Checklist 5 (PCL-5).[13] The PCL-5 is commonly used 20-item self-report tool that assesses the 20 symptoms of PTSD outlined in the *Diagnostic and Statistical Manual of Mental Disorder, fifth edition* (*DSM-5*).[14] Individuals are asked to rate how bothersome the 20 items are to them on a scale of 0 (*not at all*) to 4 (*extremely*). A cut-point score of 33 or above is considered reasonable for a provisional positive screen for PTSD.

Major depressive disorder (MDD) symptoms were assessed using the Patient Health Questionnaire 9-item (PHQ-9).[15] The PHQ-9 asks individuals to consider the past 2 weeks and to rate nine symptoms of depression on a scale

of 0 (*not at all*) to 3 (*nearly every day*). Scores are summed for a range of 0 to 27, and a score of 10 or above is suggestive of moderate-to-severe depression.

Panic disorder symptoms were assessed using the Panic Disorder (PD) Symptoms Severity Scale (PDSS).[16] The PDSS is a 7-item severity scale where items are scored on 5-point scale from 0 to 4. The measure was designed to rate the overall severity of PD symptoms, and a cutoff score of 9 or above is suggestive of a PD.

Symptoms of a general anxiety disorder (GAD) were assessed using the GAD 7-item Scale (GAD-7).[17] The GAD-7 is a 7-item questionnaire where individuals are asked to rate how often symptoms of anxiety, such as feeling nervous, anxious, or on edge, have bothered them on a scale of 0 (*not at all*) to 3 (*nearly every day*). Responses are summed, and a cutoff score of 9 or above is suggestive of a GAD.

The Depression, Anxiety, and Stress Scale–21 (DASS-21) was also used to measure broad symptom severity of depression, anxiety, and stress.[18] The DASS-21 is a 21-item questionnaire divided into three subscales of Depression, Anxiety, and Stress. Items are scored from 0 (*does not apply to me at all*) to 3 (*applies to me very much or most of the time*).

Social anxiety disorder symptoms were assessed using the Social Interaction Phobia Scale (SIPS).[19] The SIPS is a 14-item measure of social anxiety symptoms that can be divided into three subscales of Social Interaction Anxiety, Fear of Overt Evaluation, and Fear of Attracting Attention. Subscale scores and an overall score were calculated and assessed in this study, and an SIPS total score of >20 was considered a positive screen suggestive of a social anxiety disorder.

Risky (hazardous) alcohol use was assessed with the Alcohol Use Disorders Identification Test (AUDIT).[20] The AUDIT is consistent with International Classification of Diseases (ICD-10) definitions of alcohol dependence and harmful alcohol use. The AUDIT is a 10-item list of questions relating to an individual's drinking behavior. Items are scored from 0 (*no or never*) to 4 (*response depends on the question being asked*). Responses are summed, and a positive screen for risky alcohol use was a score >15.

Participants were asked about the number and type of traumatic events they have been exposed to in their lifetime using a specific list of 16 potentially traumatic events provided by the Life Events Checklist for the *DSM-5* (LEC-5).[21] The LEC-5 not only asks about exposure to a specific event but it also asks the individual to classify each event as "happened to me," "witnessed it," "learned about it," "part of my job," "not sure," or "doesn't apply." Scores are a combination of number of events and classification. Participants were also asked how many years ago their first traumatic event occurred and when the most recent one had occurred.

All participants were asked about any prior PSP or military experience and were given the opportunity to provide a military rank or status if they answered they had previous military experience in a "comments" section following the question regarding military service. Finally, participants were asked whether they had ever seriously contemplated, planned, or had ever attempted suicide.

Participants reported their symptoms in the timeframe per the instructions for each scale: PCL-5, past month; MDD, past 14 days; PDSS, past 7 days; GAD-7, past 14 days; SIPS, currently, no specific time window; AUDIT, past year; and DASS-21, past 7 days.

Data Analysis

All data were collected electronically and entered into SPSS Version 24 (IBM) for analysis. Missing data were treated as missing, and statistical significance was set as $P < 0.05$. Demographic information such as PSP current and past employment, age, gender, and mental health questionnaire scores was described using means, frequencies, percentages, and standard deviations. Overall prevalence estimates for each mental disorder were calculated using (where appropriate) the mean score and the established dichotomous cutoffs. Differences between scores on the mental health screening tools between individuals with and without prior military experience were calculated using Mann–Whitney U tests. A series of logistic regression calculations were then performed to assess for the magnitude of differences in mental disorders identified as significantly different between PSP with, and without, previous experience in the armed forces, while controlling for age, gender, and number of self-reported traumatic life events (LEC-5).

Ethics

The study was granted ethical clearance by the University of Regina's Institutional Research Ethics Board (File #2016-107). Prior to access to the survey, individuals indicated their willingness to participate by clicking "I agree" at the end of an electronic study information letter.

Results

A total of 9,260 individuals completed at least the initial question of the survey; however, only 4,772 (51.8%) completed the entire survey, and thus there are varying amounts of missing data in different sections. As such, results here are presented for the data present in each variable, and missing data were treated as missing and not imputed. Due to the nature of survey distribution—relying on second and third parties to send it to members of their organizations—we are not able to know exactly how many surveys were distributed. In addition, not all participants provided "complete" responses to every question, so only those who provided complete data for a given analysis were included in that analysis. Actual sample sizes are provided where appropriate. A total of 631 (6.8%) respondents who provided information on their prior PSP or military work experience indicated that they had armed forces experience prior to their

current employment as PSP, and of these 613, 132 or 20.9% identified as reservists.

Most ex-military PSP were currently employed in either municipal, provincial, or federal police services (60.4%); 13.3% were employed in correctional services, 11.0% in firefighting services, 10.8% as paramedics, and the remaining 4.6% in other occupations such as emergency dispatchers or call operators. Table 1 shows the demographic information of the study sample for those with and without prior service in the armed forces.

Table 2 shows the mean and standard deviation of scores on the various mental health screening tools for PSP with and without prior service experience in the armed forces. PSP with previous military service (i.e., ex-military PSP) reported poorer scores on all screening tools for mental disorders than those without, although not all were statistically significantly different. In addition to having significantly higher screening scores on the PCL-5, PHQ-9, PDSS, and GAD-7, PSP with prior military service report significantly greater mean levels of symptom severity on measures of symptom severity (i.e., Depression, Anxiety, and Stress Scale [DASS]) than those without military service.

PSP members with prior military service also reported significantly more exposure to traumatic events as measured by the LEC-5 (mean number of exposures = 67.0 [$SD = 34.7$] vs. 62.0 [35.6], respectively, $P < 0.001$.). However, there was no significant difference between PSP members with and without military service with respect to the number of years ago the first traumatic event happened (i.e., mean number of years: military PSP = 12.7 [$SD = 9.6$], nonmilitary PSP = 12.1 [$SD = 10.2$], $P = 0.225$). Ex-military PSP were also statistically significantly more likely to have experienced or witnessed "line of duty deaths," "line of duty serious injuries," "disasters or multiple casualty incidents," incidents that seriously threatened my life or the life of a colleague," "incidents where victims were relatives or friends," and "experienced, witnessed, or learned about the suicide of a close colleague or supervisor" (all Ps < 0.001).

The frequency and percentage of individuals who screened positive based on the cutoff scores for the screening questionnaires are shown in Table 3. PSP with previous military experience were significantly more likely to screen positive for symptoms of PTSD, depression, anxiety disorders, and PDs. When asked about suicidal contemplation, PSP with prior military service were significantly more likely to have contemplated suicide in their lifetime than those without (32.1% vs. 24.9%, respectively, $P < 0.001$), but there were no statistically significant differences between the groups with respect to planning or attempting suicide.

In Table 4, the results of binary logistic regression analysis for mental disorder for PSP individuals with and without prior military service are presented. While controlling for age, gender, and number of self-reported exposures to traumatic events, ex-military member of PSP had significantly greater odds of screening positive for symptoms of PTSD, mood, anxiety, or acute stress disorders and to have contemplated suicide than those without prior experience in the armed forces.

Table 1. Sociodemographic Public Safety Personnel with and without Previous Military Experience.

Sociodemographic Variable	Previous Military Experience	No Previous Military Experience
Sex	$n = 597$	$n = 7{,}126$
Male	90.6	64.0
Female	9.4	36.0
Age	$n = 598$	$n = 7{,}128$
18–29	3.5	6.2
30–39	22.6	27.9
40–49	38.8	36.6
50–59	31.4	25.3
60 and older	3.7	4.1
PSP occupation	$n = 630$	$n = 8{,}193$
Corrections	13.3	14.9
Firefighter	11.0	14.0
Paramedics	10.8	14.1
Police	60.4	47.0
Other	4.6	9.8
Marital status	$n = 592$	$n = 7{,}076$
Married/common law	74.8	75.5
Single	8.3	11.2
Separated/divorced/widowed	10.8	10.3
Remarried	6.1	3.0
Province of residence	$n = 623$	$n = 7{,}720$
Western Canada (BC, AB, SK, MB)	51.6	51.0
Eastern Canada (ON, QC)	32.7	36.6
Atlantic Canada (PEI, NS, NB, NFL)	15.6	12.4
Northern territories (YK, NWT, NVT)	1.4	1.0
Ethnicity	$n = 597$	$n = 7{,}076$
White	89.4	90.3
Other	10.6	9.7
Education	$n = 570$	$n = 6{,}983$
High school or less	13.3	9.1
Some postsecondary (less than 4-year college/university program)	53.9	53.9
University degree/4-year college or higher	32.8	37.0
Years of PSP service	$n = 600$	$n = 7{,}180$
More than 16 years	68.3	56.4
10 to 15 years	19.8	24.1
5 to 9 years	9.8	14.3
Less than 4 years	2.0	5.3

Note. AB = Alberta; BC = British Columbia; MB = Manitoba; NB = New Brunswick; NFL = Newfoundland and Labrador; NS = Nova Scotia; NVT = Nunavut; NWT = Northwest Territories; ON = Ontario; PEI = Prince Edward Island; PSP = public safety personnel; QC = Quebec; SK = Saskatchewan; YK = Yukon.

Discussion

The current article is the first report assessing associations between prior military service and the mental health of PSP. In general, we found that PSP with previous military service

Table 2. Mean Scores (and Standard Deviation) on Mental Disorder Screening Measures and Symptom Severity Measures by Previous Military Experience.

	Previous Military Experience		No Previous Military Experience		Difference (Mann–Whitney U)
Mental Health Screening Tool	Mean	*SD*	Mean	*SD*	*P*
PTSD (PCL-5)	25.1	20.2	20.9	18.6	<0.001
Depression (PHQ-9)	7.4	6.4	6.5	5.8	0.004
Anxiety (GAD-7)	5.9	5.6	5.2	4.9	0.010
Social anxiety disorder (SIPS)	10.6	10.6	10.2	10.8	0.908
Panic disorder (PDSS)	3.3	5.0	2.5	4.3	<0.001
Risky alcohol use (AUDIT)	6.2	4.8	6.1	5.0	0.649
DASS Depression	11.3	9.4	9.6	8.4	0.001
DASS Anxiety	10.4	9.2	9.1	8.4	0.013
DASS Stress	11.2	9.4	9.5	8.4	0.001

Note. PTSD = post-traumatic stress disorder; PCL-5 = Post-traumatic Stress Disorder Checklist for DSM-5; PHQ-9 = Patient Health Questionnaire; GAD-7 = Generalized Anxiety Disorder Scale; SIPS = Social Interaction Phobia Scale; PDSS = Panic Disorder Symptoms Severity Scale; AUDIT = Alcohol Use Disorders Identification Test; DASS = Depression, Anxiety, and Stress Scale.

Table 3. Frequency and Percent of Individuals Who Screen Positive for Symptoms of the Following Mental Health Disorders according to Screening Tools Used, and for Suicidal Ideation.

	Previous Military Experience		No Previous Military Experience		Difference
Mental Health Screening Tool	*N*	%	*N*	%	*P*
PTSD (PCL-5)	145/469	29.4	1,132/5,343	21.2	<0.001
Depression (PHQ-9)	61/477	12.8	430/5,107	8.4	0.001
Anxiety (GAD-7)	106/466	22.7	902/4,959	18.2	0.006
Social anxiety disorder (SIPS)	71/485	15.5	745/4,870	15.3	0.908
Panic disorder (PDSS)	75/445	16.9	562/4,678	12.0	0.003
Risky alcohol use (AUDIT)	25/398	6.3	275/4,142	6.6	0.784
Ever contemplated suicide	153/476	32.1	1,273/5,103	24.9	<0.001
Ever planned suicide	76/476	16.0	586/5,103	11.5	0.225
Ever attempted suicide	19/476	4.0	216/5,103	4.2	0.719

Note. PTSD = post-traumatic stress disorder; PCL-5 = Posttraumatic Stress Disorder Checklist for DSM-5; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorder, fifth edition*; PHQ-9 = Patient Health Questionnaire; GAD-7 = Generalized Anxiety Disorder Scale; SIPS = Social Interaction Phobia Scale; PDSS = Panic Disorder Symptoms Severity Scale; AUDIT = Alcohol Use Disorders Identification Test.

Table 4. Odds Ratios and 95% CI of Differences in Symptoms of Mental Disorders by Previous Military Experience, Controlling for Age, Gender, and Exposure to Traumatic Events.

Mental Health Measure	Previous Military Experience Odds Ratio [95% CI]	*P* Value
PTSD	1.62 [1.31 to 2.00]	<0.001
GAD-7	1.48 [1.17 to 1.87]	0.001
PHQ-9	1.57 [1.17 to 2.10]	0.002
PDSS	1.63 [1.24 to 2.14]	<0.001
SIPS	1.11 [0.85 to 1.46]	0.441
AUDIT (risky drinking)	0.84 [0.55 to 1.29]	0.420
Ever contemplated suicide	1.58 [1.30 to 1.93]	<0.001
Ever made a plan to attempt suicide	1.33 [0.93 to 1.90]	0.120
Ever attempted suicide	0.99 [0.82 to 1.19]	0.918

Note. Reference Category is No Previous Military Experience (*OR* = 1.00). PTSD = post-traumatic stress disorder; PHQ-9 = Patient Health Questionnaire; GAD-7 = Generalized Anxiety Disorder Scale; SIPS = Social Interaction Phobia Scale; PDSS = Panic Disorder Symptoms Severity Scale; AUDIT = Alcohol Use Disorders Identification Test.

are approximately 1.5 times more likely than those without prior military service to screen positive for symptoms of one or more of the following mental disorders: PTSD, depression, anxiety, stress, PD, and suicidal ideation. The result is important because of the relatively large number of ex-military members who go on to careers in PSP. Our results indicate that 6.8% of PSP had served in the military; while that may not be perceived as a large percentage, there are approximately 161,000 Canadians working as PSP,[22] meaning roughly 11,000 individuals may be at significantly increased odds for these mental disorders.

The increased odds of screening positive for symptoms of a mental health disorder among PSP with previous military service may, in part, be due to prior trauma exposure.[23] The ex-military PSP in our study reported significantly higher scores on the LEC-5 than those without military service, and when asked whether their life had been in danger during the most traumatic event they experienced, ex-military PSP were almost twice as likely to say yes (13.9% vs. 7.7%).

PSP with prior military experience were also at increased odds of lifetime suicidal contemplation but not planning or attempts. In addition, all participants were asked whether the suicidal ideation, plans, or attempts occurred in the past 12 months, but there were no significant differences between the prior military and nonmilitary PSP, possibly due to the extremely small sample sizes. PSP with no prior military experience reported lifetime contemplation rates similar to those already reported by the full sample of PSP,[24] while PSP with prior military experience report lifetime contemplation rates that were significantly higher.[24] As suicide responses were based on the participants' lifetime, directionality cannot be elucidated; therefore, future research needs to examine the relationship between suicide thoughts, plans, and attempts and military and PSP service.

Further research that explores the diversity, range, nature, and length of each role—military and PSP—as well as the timing, severity, frequency, and duration of traumatic exposures is warranted. Other priorities include understanding gender differences and factors such as past medical history and resiliency, which may have bearing on the current experience of symptoms of mental disorders. While we do not have detailed information regarding the type and length of service, in this sample, at least 20.9% of PSP participants with prior military service did identify as reservists.

The reason for leaving the military may also provide insight into in the increased odds for screening positive for symptoms of mental health disorders. Based on the healthy worker effect, those most unhealthy leave work sooner than the healthy workers who persist in their roles.[25] Thus, the reason for leaving the service and the timing (early vs. normal retirement) are important variables to consider when evaluating the risk of developing mental health disorders. It is possible individuals who leave earlier may have done so for medical reasons, so when they proceed on into other careers in PSP, they are more at risk to develop mental disorders. There may also be a small group whose primary occupation is PSP but who maintain a role in the military reserve. Prior research on firefighter mental health suggests that individuals who concurrently maintain both roles are at elevated risk for suicidal ideation, plans, attempts, and nonsuicidal self-injury.[26]

Finally, health-care structures may further impact an individual's attempt to get help. The coordinated organizational efforts within armed forces to destigmatize mental disorders are positively impacting help-seeking behaviors[27] for serving personnel; however, across PSP organizations, there is no analogous structural, coordinated health-care system. The absent system leaves ex-military PSP to seek health care within civilian health-care systems that may have little awareness or understanding of the impacts of military service on mental health, made worse when those impacts are compounded with those of a PSP role.[28]

Individuals who served in the armed forces or in the public safety sectors are significantly more likely to report symptoms consistent with several mental disorders when compared to the general population,[5] and, in the present study, for PSP with prior service experience in the armed forces, symptom severity appears to be further increased. Accordingly, mental health practitioners should be sure to inquire about previous service in the armed forces in screening, assessment, and treatment. Such inquiries can help to first identify those most likely to have an actual mental health problem and, second, to ensure appropriate resources are allocated to meet patient need.

Research examining the mental health of PSP is still very novel. The mental health needs of serving Canadian military members and reservists have been an organized focus of research since the distribution of Statistics Canada survey of military members in 2002 and 2013.[29,30] The mental health of police service members in Ontario was brought to attention following the publication of the 2012 Ontario Ombudsman's report called "In the Line of Duty" that found more officers had killed themselves over the previous 23 years than were being killed doing police work.[31] On July 17, 2014, a galvanizing Global News article entitled "13 first responders, 13 suicides, 10 weeks"[32] was published, resulting in substantial increases in the level, depth, and breadth of discourse regarding PSP mental health, and on October 4, 2016, the Standing Committee on Public Safety and National Security tabled a report, Healthy Minds, Safe Communities: Supporting Our Public Safety Officers Through A National Strategy For Operational Stress Injuries.[33]

Recognizing the extent of stigma and barriers to treatment documented both within armed forces and PSP populations, specifically that help seeking is not a cultural norm, a fulsome occupational history must be conducted when individuals finally do present for psychiatric services.[34] The combination of previous military and ongoing public safety service seems to potentiate the likelihood of several psychiatric conditions among a population likely skeptical or even adverse to treatment despite need.

Limitations

There are several limitations to this study. The current study used cross-sectional survey data, and as such, no causal relationships can be inferred. Completion of the survey was voluntary, potentially limiting the generalizability of the current results across PSP populations. There is also no national or provincial information available on the number of PSP who have military backgrounds. As such, we do not know how representative this sample is of that group.

Participants self-reported having previous military service. We did not, however, ask about the length of past military service or number of deployments. The increased odds for screening positive for symptoms of mental health disorders in ex-military PSP may also be associated with length of service, the number of deployments, and the location of deployments and should be examined more closely in future studies. Military service may also be a proxy for some other characteristic of these individuals, and warrants further

investigation, but does not change the finding that the odds of individuals with prior military experience experiencing increased symptoms of mental disorders.

The survey was completely voluntary and anonymous, which prohibited verifying or validating the responses given. As such, we recognize the potential for response, recall, and social desirability biases. However, other research in this population has shown that individuals provide more honest responses regarding their mental health on anonymous surveys compared to nonanonymous reporting.[35]

To our knowledge, the current work is the first to compare the mental health of PSP with and without former service experience in the armed forces. Further research that explores the diversity, range, nature, and length of each role—military and PSP—as well as the timing, severity, frequency, and duration of traumatic exposures appears well warranted. Other priorities include understanding the categories of military service, the reasons for leaving the military, disclosure of previous service within their new workplace, and gender differences; each of these may have bearing on the current experience of symptoms of mental disorders. However, this study is an important first step in recognizing the increased self-reported symptoms of mental health disorders in PSP with prior military experience and establishing the necessary groundwork to identify and help these individuals succeed in their careers after their military service.

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ORCID iD

Dianne L. Groll, PhD https://orcid.org/0000-0001-6913-5710
R. Nicholas Carleton, PhD https://orcid.org/0000-0002-6083-8935

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