

Comparison of attitudes towards the service connection claims process among veterans filing for PTSD and veterans filing for musculoskeletal disorders

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Abstract

Many veterans have negative views about the service connection claims process for posttraumatic stress disorder (PTSD), which likely impacts willingness to file service connection claims, re-file claims, and use Veterans Healthcare Administration care. Nevertheless, veterans have reported that PTSD claims are important to them for the financial benefits, validation of prior experience and harm, and self-other issues such as pleasing a significant other. It is unknown if reported attitudes are specific to PTSD claimants or if they would be similar to those submitting claims for other disorders, such as musculoskeletal disorders. Therefore, the purpose of this study was to compare attitudes and beliefs about service connection processes between veterans submitting service connection claims for PTSD and musculoskeletal disorders.

Participants were Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn veterans filing service connection claims for PTSD ($n = 218$) or musculoskeletal disorder ($n = 257$) who completed a modified Disability Application Appraisal Inventory. This secondary data analysis using multiple regression models tested the effect of demographics, clinical characteristics, and claim type on 5 Disability Application Appraisal Inventory subscales: Knowledge about service connection claims, Negative Expectations about the process, and importance of Financial Benefits, importance of Validation of veteran's experience/condition, and importance of Self-Other attitudes.

The PTSD group assigned significantly less importance to financial benefits than the musculoskeletal disorder group. In addition, the subset of the PTSD group without depression had significantly more Negative Expectations than musculoskeletal disorder claimants without depression. Negative Expectations did not differ between the PTSD and musculoskeletal disorder groups with depression. Depression was significantly positively associated with Negative Expectations, importance of Financial Benefits, and importance of Validation.

Most perceptions around seeking service connection are not specific to PTSD claimants. Depression is associated with having negative expectations about service connection claims and motivations to file claims. Addressing depression and negative expectations during the compensation and pension process might help veterans at this important point of contact with Veterans Healthcare Administration services.

Abbreviations: C&P = compensation and pension, DAAI = Disability Application Appraisal Inventory, m-DAAI = modified Disability Application Appraisal Inventory, OEF/OIF/OND = Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn, PTSD = posttraumatic stress disorder, TBI = traumatic brain injury.

Keywords: compensation and pension, musculoskeletal disorders, posttraumatic stress disorder, service connection, veterans

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1. Introduction

Veterans with medical and psychiatric conditions caused or exacerbated by military service are eligible for service connection benefits as compensation for incurred social and vocational impairment.^[1] The service connection evaluation process is complex and lengthy.^[2,3] Benefits are determined by medical or psychological evaluations, which may include self-report, collateral reports (e.g., from spouse), review of medical records and discharge paperwork, and physical and/or neuropsychological examination.^[4] This evaluation determines the service connection monthly stipend and other important benefits including access to a range of Veterans Healthcare Administration services, preferential hiring for federal jobs, and survivor benefits.^[5] Service connection evaluations are also important for Veterans Healthcare Administration medical treatment, as veterans receive priority, and often free, treatment for service-connected conditions.^[6] Research involving a nationally representative cohort of veterans who applied for benefits for posttraumatic stress disorder (PTSD) showed that 10 years after the service connection evaluation, veterans compensated for PTSD were less likely to be in poverty and/or homeless, suggesting a role of the service connection decision in long-term outcomes.^[7]

As of 2018, approximately 4.7 million of the nation's 19 million veterans (between WWII to present) have received service connection, with over 1 million PTSD claims awarded.^[8] There have been several carefully done analyses describing the negative feelings engendered by the PTSD service connection exam.^[5,9] Some of veterans' negative attitudes are based on misconceptions regarding the service connection evaluation process. Erroneous beliefs include that PTSD is the only mental health disorder for which service connection is awarded,^[10] that service connection may affect or preclude being hired for federal jobs, and that employed veterans cannot receive service connection.^[11] Reasons veterans give for applying for service connection for PTSD include help meeting tangible needs (e.g., financial, educational, health issues), acknowledgement and validation of their military experience, and having been encouraged by others to apply.^[2,12] The salience of different motivations has been shown to differ by veterans' circumstances. Not surprisingly, veterans with lower incomes assigned higher importance to obtaining financial benefits as motivating a service connection claim and were more likely than veterans with higher incomes to cite validation of their military experience as a motivator.^[2]

Beliefs about service connection processes and outcomes are important because negative beliefs may impact veterans' willingness to make the effort to apply for service connection. Beliefs about the service connection process are also important because they impact utilization of health services. For example, PTSD service use is disproportionately lower after compensation and pension (C&P) examinations, as compared to before, among veterans who believe treatment will help them get their service connection claim awarded.^[13] Understanding attitudes about service connection can facilitate or impede filing and re-filing a claim,^[12] with important long-term effects on veterans.^[7]

However, no studies have examined veterans' beliefs and attitudes towards service connection examination processes for conditions other than PTSD, such as musculoskeletal disorders, even though there are approximately 9 times as many claims awarded than PTSD claims.^[8] The 2 most common musculoskeletal disorders for which veterans receive service connection

are lumbosacral or cervical (back and neck) strain and limitation of knee flexion.^[8] These disorders typically result from ergonomic injuries due to overexertion or repetition^[14]; however, they can also follow a single trauma (e.g., being in a blast, jumping from a plane). The prevalence of both back and joint pain has been found to increase over a 7-year time course among returning OEF/OIF veterans.^[15] Comorbid conditions are common; in a previously-described cohort of post-9/11 veterans seeking an initial service connection evaluation for back pain, the mean service connection rating was 14% for musculoskeletal disorders but averaged an additional 45% for other conditions.^[16]

The purpose of this study was to compare attitudes and beliefs about the service connection process between veterans submitting service connection claims for PTSD and musculoskeletal disorders. Examining and understanding attitudes towards the C&P process is important, as it can impact clinical care and engagement in treatment.^[10] Understanding and addressing attitudes among veterans seeking service connection, may help veterans receive services for these concerns and conditions needing care. It was anticipated that there would be more negative expectations about PTSD claims because it may appear to be more subjective than the musculoskeletal disorder review process. The PTSD exam and musculoskeletal disorder exam have different information collected (psychological vs physical injury) and collection procedures (physical exam vs interview). Negative expectations such as not being believed, becoming upset talking about trauma, and being upset if the claim was denied were anticipated to be more intense in the PTSD group^[12] than the musculoskeletal disorder group. It was also hypothesized that the 2 service connection-seeking groups would endorse different motivators for seeking service connection, as reasons like wanting validation of military-induced harm. Andersen Behavioral Model on Service Utilization^[17] guided the choice of predictors to include in models of attitudes and behaviors. This model posits that service use is predicted by predisposing characteristics of a population (e.g., demographics including race, age, gender, marital status), characteristics that enable people to use services (e.g., being already service-connected), and need for services (e.g., illness severity, PHQ-9). These predictors were included in models of attitudes towards the service connection process, in addition to the effects of PTSD vs musculoskeletal disorder claim.

2. Method

2.1. Participants

Participants included in these secondary data analyses were a convenience sample of veterans from post-9/11 conflicts Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn (OEF/OIF/OND) who were filing service connection disability claims for PTSD ($n=218$, Clinical Trial Registration # NCT01597856) between 2013 and 2016 or musculoskeletal disorder^[18] ($n=257$, Registration # NCT02049086), specifically low back pain, shoulder and/or knee pain between 2014 and 2016. Participants were enrolled in 2 separate studies that each involved an in-person baseline assessment at VA Connecticut Healthcare System. Participants in each study provided informed consent by answering questions to check their understanding of the information provided in the consent form.

There were some differences in inclusion/exclusion criteria between the studies: veterans applying for service connection for PTSD were eligible if they were submitting an initial claim for PTSD, while those applying for service connection for musculoskeletal disorder were eligible whether the musculoskeletal disorder claim was an initial or a resubmission. Veterans applying for service connection for musculoskeletal disorder were eligible if their peak joint pain in the preceding 28 days had at least 2 on the 0 to 10 numeric rating scale. Veterans were excluded from the PTSD study if they described physiological substance dependence, and from the musculoskeletal disorder study if they had attended specialized addiction treatment in the preceding 3 months.

Both studies' recruitment involved sending letters to claimants who had scheduled service connection exams, followed by phone calls inviting study participation. All participants were compensated \$70 for initial assessments. Study procedures were approved by the VA Connecticut Healthcare System and Yale University Institutional Review Boards. Data used in this manuscript will be made available within the guidelines of the study's HIPAA Authorization and Informed Consent and with a data use agreement. Requests for data will be answered with information required to enter into a Data Use Agreement for these data.

2.2. Measures

2.2.1. Baseline characteristics questionnaire. Baseline Characteristics Questionnaire assessed demographics, lifetime psychiatric history, employment history, and history of traumatic brain injury (TBI; military and non-military). Demographic differences between service connection claim types on beliefs and attitudes towards the service connection process were explored.

2.2.2. Disability application appraisal inventory. Disability Application Appraisal Inventory (DAAI)^[19] is a self-report measure of attitudes and beliefs pertaining to the C&P process in veterans with PTSD.^[2,9,20] The DAAI has been shown to have good internal consistency.^[19] It is composed of 3 scales (Table 1). The Knowledge scale assesses factual understanding of the claim evaluation process; the Negative Expectations scale assesses expectations that the exam process will be negative (e.g., biased against the veteran, stressful); the Importance scale identifies factors motivating the veteran's engagement in the evaluative process to become service-connected.^[19] The Importance scale comprises 3 subscales: Self-Other Acceptance, Validation, and Financial Benefits. The Self-Other Acceptance subscale assesses the belief that service connection will positively impact how the veteran is viewed by self and others. The Validation subscale measures the importance of feeling acknowledged or recognized for having a service-related disability. The Financial Benefits subscale assesses the importance of monetary incentives. The possible range for the modified Disability Application Appraisal Inventory (m-DAAI) subscale scores were as follows: Knowledge (0–12), Negative Expectations (13–65), Self-Other Acceptance (6–30), Validation (7–35), Financial Benefit (6–30).

For this study, the DAAI was modified for veterans applying for service connection for musculoskeletal disorder by replacing the word PTSD with musculoskeletal disorder (e.g., *I will be very angry if I am denied service connection for musculoskeletal disorder/PTSD*; scale available upon request). Both of the DAAI

versions were reviewed by an expert from the Board of Veterans Appeals to determine whether items (developed in 2004) were still relevant to current procedures; this resulted in removal of 3 items from the Knowledge scale (Appendix A, Supplemental Digital Content, <http://links.lww.com/MD2/A363>).

2.2.3. Beck depression inventory II. Beck Depression Inventory II^[21] assessed severity of depressive symptoms in the last 2 weeks. Scores on this self-report assessment determined severity of depression using the following criteria: 0 to 13 – minimal depression; 14 to 19 – mild depression; 20 to 28 – moderate depression; and 29 to 63 – severe depression.

2.2.4. Time line follow back. Time Line Follow Back^[22] measured the quantity and frequency of self-reported substance use using in the 30 days prior to the baseline assessment. Self-reported drinking patterns were used to determine risky drinkers, defined as veterans drinking >14 drinks/week or >4 drinks/occasion for men or >7 drinks/week or >3 drinks/occasion for women.^[23]

2.3. Factor analysis to establish measurement invariance across musculoskeletal disorder and PTSD samples

Because different wording was used in the DAAI to refer to the claimed condition for PTSD vs musculoskeletal disorder claimants, the factor structure of the original DAAI (referencing the PTSD claim) and the DAAI referencing the musculoskeletal disorder claims were compared. Using *Mplus* version 6^[24] software (Los Angeles, California, USA), Confirmatory Factor Analysis tested whether each DAAI version exhibited the same 3-factor structure, and whether 3 sub-factors (i.e., Self-Other Acceptance, Validation, and Financial Benefit) would emerge from the Importance scale for both versions. After removing several items, the factor structure was comparable in the musculoskeletal disorder and PTSD samples. The resulting items were referred to as the modified DAAI (m-DAAI).

2.4. m-DAAI data analysis

The m-DAAI analyses were completed using SAS 9.4 software (North Carolina, USA).^[25] Bivariate analyses (i.e., chi-square, *t* tests) compared the PTSD and musculoskeletal disorder service connection-claim samples on clinical, demographic, financial, and claim-related characteristics. Multivariate regression models tested the effect of claim type (i.e., PTSD vs musculoskeletal disorders) on each of the 5 m-DAAI subscales. Model covariates included available clinical, demographic, and claim-related characteristics that might predict veterans' attitudes or confound differences in attitudes between PTSD and musculoskeletal disorder samples. Clinical variables included Beck Depression Inventory-II depression severity, risky drinking, presence of TBI, and having had mental health contact in the past 28 days. Demographic variables were age, sex, race, marital status, past year employment history, past month total income, presence of service connection before current claim, and whether the current application was a resubmission. Participants missing any data were removed from the multivariate analyses. Due to the number of comparisons, the significance level was adjusted to be $P < .01$, reducing risk of Type I error. A visual depiction of the assessments and statistical techniques used can be found in Appendix B, Supplemental Digital Content, <http://links.lww.com/MD2/A364>.

Table 1
Example items from DAAI.

Name of subscale	Instructions	Sample item
Knowledge (about the service connection process)	We are interested in understanding how veterans experience the compensation and pension (C&P) claims process. Below are a number of statements about the claims process itself. Some of the statements are true and some of them are false. Please indicate which statements are True and which are False and those statements for which you Don't Know by filling in the appropriate circle next to the statement.	Whether or not someone gets C&P benefits depends entirely on having a doctor or therapist write a letter supporting the claim for service connection. (False)
Negative Expectations	The following questions concern your expectations and beliefs about the compensation and pension (C&P) process. We are considering anything having to do with your claim for PTSD the compensation and pension process, such as your examination for PTSD, and the outcome when you receive notification of the rating decision.	I will be denied disability benefits even after undergoing this whole process.
Importance of service connection benefits sub-scales	The following questions concern the importance of becoming service connected for PTSD. Each sentence begins with the phrase: "Becoming service connected for PTSD (musculoskeletal disorder) is important to me because . . ."	
Financial Benefits		. . . I need to be awarded service connection for PTSD to pay my bills
Self-Other		. . . other people (including my family) will understand that I have a problem.
Validation		. . . I will feel like justice has been served for what I went through.

m-DAAI consists of 44 items. Range for m-DAAI subscale scores: Knowledge (0–12), Negative Expectations (13–65), Self-Other Acceptance (6–30), Validation (7–35), Financial Benefit (6–30). PTSD = posttraumatic stress disorder, m-DAAI = modified Disability Application Appraisal Inventory.

3. Results

3.1. Characteristics of PTSD and musculoskeletal disorder sample

Participants were 475 OIF/OEF/OND veterans; the majority were white (63%) and male (86%). In bivariate comparisons (Table 2), veterans applying for PTSD endorsed significantly greater depression severity, risky drinking behavior, history of TBI, and recent mental health contact compared to veterans applying for service connection for musculoskeletal disorders. Those applying for service connection for PTSD were also significantly younger, more likely to be single, worked fewer years, and reported less income in the past 28 days.

In bivariate analyses, the only subscale of the m-DAAI that differed significantly between samples was Negative Expectations; applicants for service connection for PTSD reported significantly more Negative Expectations about the claims process ($M: 40.68, SD: 4.94$) compared to veterans who submitted service connection applications for musculoskeletal disorders ($M: 35.80, SD: 9.82; t \text{ test} = -6.64, P < .001$).

Of the clinical correlates examined, depression severity was significantly associated with 3 of the 5 m-DAAI subscales. Depression was independently and positively associated with Negative Expectations ($F(3, 463) = 22.2, P < .001$), importance of Financial Benefits ($F(3, 440) = 9.64, P < .001$), and Validation ($F(3, 440) = 4.42, P = .004$).

3.2. Multivariate analyses of associations between veteran characteristics and service connection attitudes/beliefs

Table 3 displays associations between participant characteristics and attitudes/beliefs towards the service connection process in

multivariate analyses. Type of claim was not significantly associated with Knowledge pertaining to the service connection process, Negative Expectations towards the process, or the importance of Validation or Significant Other issues. A significant effect of claim type was detected for Financial Benefits, after adjustment for participant characteristics. Having a PTSD (vs musculoskeletal disorders) claim was significantly negatively associated with importance of Financial Benefits ($F(1, 440) = 14.32, P < .001$). Veterans applying for service connection for musculoskeletal disorders rated Financial Benefits significantly higher.

To test whether the effect of claim type differed by whether or not veterans reported recent depression, post-hoc analyses were conducted to assess whether depression was an effect modifier/moderator on claim type.

A significant interaction between depression and claim type was observed ($F(3, 437) = 12.47, P < .001$); among veterans without depression, those applying for PTSD had significantly greater Negative Expectations compared to those applying for musculoskeletal disorders. However, among those endorsing depression there was no significant effect of claim type.

With respect to demographic characteristics, in the full model, race/ethnicity was significantly associated with Knowledge about the service connection process ($F(3, 441) = 7.83, P < .001$). White veterans scored as more knowledgeable about the service connection process compared to Black and Hispanic veterans. Total income over the past 28 days was inversely associated with the importance of Financial Benefits ($F(3, 440) = 5.22, P = .002$). No other estimates for demographic predictors were statistically significant in multivariate models.

Table 2**Characteristics of Individuals who filed claims for PTSD and musculoskeletal disorders.**

	<i>N</i>	PTSD (<i>n</i> =218) % or mean (SD)	Musculoskeletal disorder (<i>n</i> =257) % or mean (SD)	<i>P</i> value
Demographic				
Sex (% Male)	475	86.24	85.21	.751
Age (<i>M</i>)*	475	33.19 (8.79)	35.62 (10.23)	.006
Race/Ethnicity (%)	475			.258
Black		14.22	14.79	
White		67.43	59.53	
Hispanic		14.22	19.84	
Other		4.13	5.84	
Marital status (%)	475			.047
Married		44.95	55.64	
No-longer married		18.81	17.51	
Single		36.24	26.85	
Total number of years worked in lifetime (%)	473			.035
<4 years		21.20	12.50	
4 ≥ years <7		34.10	32.42	
7 ≥ years <13		22.58	25	
≥13 years		22.12	30.08	
Total income in past 28 days (%)	473			.025
<\$1646		29.03	21.48	
1646 ≥ \$ <3200		25.35	24.22	
3200 ≥ \$ <5700		26.73	23.83	
≥\$5700		18.89	30.47	
Current service connection	474	30.28	55.08	<.0001
Current application is a resubmission	473	29.03	52.73	<.0001
Clinical				
BDI-rated depression (%)	470			<.0001
None		20.83	53.54	
Mild		14.35	16.54	
Moderate		30.09	15.75	
Severe		34.72	14.17	
Risky alcohol use (%)	475	49.54	29.96	<.0001
History of TBI (%)	474	53.92	37.74	.0004
Mental health contact in past 28 days (%)	475			.002
None		77.52	89.49	
1		10.55	4.67	
More than 1		11.93	5.84	
DAAI subscale scores (mean)				
Knowledge*	473	7.22 (2.00)	7.40 (1.77)	.309
Negative Expectations*	472	40.68 (4.94)	35.80 (9.82)	<.0001
Financial*	472	14.90 (5.03)	15.62 (4.94)	.118
Significant Other*	472	13.22 (4.77)	12.72 (4.96)	.265
Validation*	472	21.32 (5.44)	20.99 (5.60)	.523

Range for m-DAAI subscale scores: Knowledge (0–12), Negative Expectations (13–65), Self-Other Acceptance (6–30), Validation (7–35), Financial Benefit (6–30).

BDI = Beck Depression Inventory, m-DAAI = modified Disability Application Appraisal Inventory, PTSD = posttraumatic stress disorder, TBI = traumatic brain injury.

* Indicates bivariate comparison using *t* test.

4. Discussion

The purpose of this study was to compare attitudes and beliefs about the service connection process between veterans submitting service connection claims for PTSD and musculoskeletal disorders. Results suggest many similarities between the 2 samples. The only significant difference in beliefs or attitudes between the samples was greater importance placed on financial reasons for seeking service connection among veterans filing musculoskeletal disorder claims. No differences were observed with regard to veterans' knowledge, negative expectations, or importance for seeking service connection.

Depression severity was directly associated with several beliefs and attitudes about the service connection process, and was found to significantly interact with claim type in predicting

Negative Expectation scores. PTSD claimants had more Negative Expectations than musculoskeletal disorder claimants among non-depressed veterans. The importance of depression as an effect modifier on the association between claims type and Negative Expectations towards the service connection process makes intuitive sense. Negative expectations (in general) are a symptom of depression, and would be expected to be higher in people who are depressed at the time of their service connection claim evaluation.^[26] More Negative Expectations among people with depression may also be a realistic appraisal of the likelihood that the long service connection process will be distressing for them. There are several possible explanations for the similarly Negative Expectations for the service connection exam across individuals applying for service connection for

Table 3
Association Among Clinical Variables and m-DAAI subscales.

	Knowledge F/LS mean	Negative Expectations F/LS mean	Financial F/LS mean	Validation F/LS mean	Significant Other F/LS mean
Sex	1.13	0.56	6.24 ⁺	0.16	0.28
Male					
Female					
Age	1.62	0.97	0.09	0.80	4.10 ⁺
Race	7.83 ^{**}	1.76	0.13	2.42	0.18
Black	6.82 ^a				
White	7.60 ^b				
Hispanic	6.59 ^a				
Other	6.93 ^{ab}				
Marital status	1.12	0.15	0.98	1.38	0.99
Total number of years worked in lifetime	0.95	3.32 ⁺	1.32	0.85	0.83
<4 years					
4 ≥ years < 7					
7 ≥ years < 13					
≥13 years					
Total income in past 28 days	1.24	2.10	5.22 [*]	0.36	1.75
<\$1646			16.83 ^a		
1646 ≥ \$ < \$3200			15.40 ^b		
3200 ≥ \$ < \$5700			14.78 ^b		
≥\$5700			14.08 ^b		
Current service connection	1.33	0.58	0.60	1.02	0.02
Current application resubmission	0.26	0.06	1.18	0.15	0.80
Service-connection claim filed	0.24	4.84 ⁺	14.32 ^{**}	0.10	0.15
PTSD		40.99 [^]	14.32		
Musculoskeletal disorder		32.98	16.23		
BDI-rated depression	0.14	20.22 ^{***}	9.64 ^{**}	4.42 [*]	3.45 ⁺
None		35.64	13.49 ^a	20.55 ^a	
Mild		39.99	15.01 ^{ab}	21.33 ^{ab}	
Moderate		40.14	15.72 ^b	22.17 ^{ab}	
Severe		43.74	16.87 ^b	23.22 ^b	
Risky alcohol use	0.20	0.23	3.29	1.15	6.23 ⁺
Yes					
No					
TBI	0.07	4.46 ⁺	6.17 ⁺	2.27	4.78 ⁺
Yes					
No					
Mental health contact	0.12	2.28	1.04	0.12	0.27

(*n* = 464). ****P* < .0001. ***P* < .001. **P* < .01. ⁺*P* < .05. [^]*P* < .003 in those without depression. Confounder-adjusted estimates reported. Significant differences between least square (LS) means is indicated by superscript. Bold indicates significant interaction effect on negative expectations between claim type among veterans not endorsing depression.

BDI = Beck Depression Inventory, PTSD = posttraumatic stress disorder. TBI = traumatic brain injury.

PTSD or musculoskeletal disorders with mild to severe depression, implying that Negative Expectations about the service connection process may not be group-specific among those with depression. One explanation is that many veterans applying for service connection file several claims at once and therefore have global opinions about the service connection process that are not condition-specific. Arguing against this explanation is that having claim resubmission and currently receiving service connection were controlled for in the model, and neither covariate was associated with having negative expectations for the service connection exam. Data were unavailable on what other claims veterans might have filed at the same time as the claim under review and these concurrent applications might have contributed to attitudes about the service connection process.

Increased depression was also found to be associated with greater importance of Financial Benefits and Validation in seeking service connection. The association between depression

and importance of Financial Benefits and Validation to the service connection claim also make intuitive sense. Prior research has identified a strong association between financial stress and depression, which may be bidirectional or even iterative.^[27] Therefore, people who are depressed may be more worried about their financial situations and/or have self-esteem issues that make having their military service properly acknowledged more important to them.

Importance of Financial Benefits was also found to be greater among veterans filing a claim for musculoskeletal disorders. It is possible that people with musculoskeletal disorder injuries are more worried about their long-term earning potential^[28] or that the people who sustain musculoskeletal disorders in their jobs in the military tend to work in jobs that are hard to perform with an musculoskeletal disorder.

Of the demographic predictors included in the model, race was associated with different levels of knowledge about the service connection process, with minority veterans having less knowl-

edge about the service connection process. This may reflect disparities in access to information about the service connection claims process. Significant differences were not found in clinic attendance between races across the entire sample, indicating that the racial groups did not have different amounts of contact with mental health providers. Providing educational materials previously tested with different racial/ethnic groups to all claimants prior to their C&P appointment may reduce the disparity in knowledge about the service connection process. Our finding adds to a growing literature indicating disparities in the experience of service connection exams. Rosen et al^[29] found that Black veterans rated their examinations as lower quality and rated the inter-personal qualities of their examiners lower as compared to White veterans. Especially troubling is Marx et al^[30] finding that PTSD service connection evaluations that did not include psychometric testing appeared to disadvantage Black veterans compared to White veterans.

This study had several limitations. First, there are covariates of interest that could not be included in the models (e.g., PTSD diagnosis, exposure to trauma, time since service separation, and previous types of service connection claims filed) as they were not uniformly measured across studies. Our data do not allow for determining if Negative Expectations (or indeed any of the outcomes) relate to other psychiatric symptoms that overlap with depression other than risky drinking use. There is a high comorbidity between depression and PTSD^[31] and musculoskeletal disorder,^[32] respectively, but we did not have a PTSD or pain severity measure (other than sample) among our covariates. Among veterans filing service connection claims for PTSD, the Negative Expectation subscale scores have been associated with several clinical subscales from the MMPI, suggesting that this scale may represent general emotional distress.^[19] Second, the PTSD and musculoskeletal disorder samples were collected in separate studies with different inclusion and exclusion criteria. Despite these limitations, the study sample is large and the individuals recruited for each study were intended to be representative of individuals applying for service connection for PTSD or musculoskeletal disorder, respectively. Another caveat in interpreting the findings is that they may relate to differences between the musculoskeletal disorder and PTSD samples, or to differences in the claims process between these 2 types of claims.

While the findings indicate more similarities than differences between the 2 service connection applicant groups, they have implications for the service connection claims process. There is a need to address aspects of the exam process that are sources of worry to all veterans. Future studies should include qualitative evaluation of veterans' experience of the service connection process to identify modifiable aspects of the process to make it more credible and less stressful to veterans. Moderate to severe depression was common in both samples, rated in 65% of PTSD claimants and 30% of musculoskeletal disorder claimants. However, future research should examine whether these beliefs and attitudes change when a veteran is submitting a service connection claim for depression and not just examine depression as a co-morbid disorder. Regardless, depression screens might be administered as part of the service connection process, regardless of type of claim filed, to identify veterans who may need extra support and access to mental health services. Published clinical trials have found that outreach to veterans with mental health claims^[33] and musculoskeletal disorder claims^[18] is associated with more use of the relevant services. Identifying needs of veterans during this crucial point-of-contact with VA could result

in a process that is less adversarial and more conducive to getting veterans the care they have earned by dint of their service.

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Conceptualization: Suzanne Spinola, Brenda T. Fenton, Sarah Meshberg-Cohen, Anne C. Black, Marc I. Rosen.

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