






# Systematic Review of the Military Career Impact of Mental Health Evaluation and Treatment

Richard E. Heyman, PhD \*; Amy M. Smith Slep, PhD \*; Aleja M. Parsons \*;  
Emma L. Ellerbeck \*; Katharine K. McMillan †

## ABSTRACT

### Introduction:

Military leaders are concerned that active duty members' fear of career impact deters mental health (MH) treatment-seeking. To coalesce research on the actual and perceived consequences of MH treatment on service members' careers, this systematic review of literature on the U.S. Military since 2000 has been investigating the following three research questions: (1) is the manner in which U.S. active duty military members seek MH treatment associated with career-affecting recommendations from providers? (2) Does MH treatment-seeking in U.S. active duty military members impact military careers, compared with not seeking treatment? (3) Do U.S. active duty military members perceive that seeking MH treatment is associated with negative career impacts?

### Materials and Methods:

A search of academic databases for keywords “military ‘career impact’ ‘mental health’” resulted in 653 studies, and an additional 51 additional studies were identified through other sources; 61 full-text articles were assessed for eligibility. A supplemental search in Medline, PsycInfo, and Google Scholar replacing “career impact” with “stigma” was also conducted; 54 articles (comprising 61 studies) met the inclusion criteria.

### Results:

As stipulated by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, studies were summarized on the population studied (U.S. Military Service[s]), sample used, intervention type, comparison group employed, outcome variables, and findings. Self-referred, compared with command-directed, service members appear to be less likely to face career-affecting provider recommendations in non-deployed and deployed settings although the data for the latter are not consistent. Of the two studies that tested if MH treatment actually negatively impacts military careers, results showed that those who sought treatment were more likely to be discharged although the casual nature of this relationship cannot be inferred from their design. Last, over one-third of all non-deployed service members, and over half of those who screened positive for psychiatric problems, believe that seeking MH treatments will harm their careers.

### Conclusions:

Despite considerable efforts to destigmatize MH treatment-seeking, a substantial proportion of service members believe that seeking help will negatively impact their careers. On one hand, these perceptions are somewhat backed by reality, as seeking MH treatment is associated with a higher likelihood of being involuntarily discharged. On the other hand, correlational designs cannot establish causality. Variables that increase both treatment-seeking and discharge could include (1) adverse childhood experiences; (2) elevated psychological problems (including both [a] the often-screened depression, anxiety, and posttraumatic stress problems and [b] problems that can interfere with military service: personality disorders, psychotic disorders, and bipolar disorder, among others); (3) a history of aggressive or behavioral problems; and (4) alcohol use and abuse. In addition, most referrals are self-directed and do not result in any career-affecting provider recommendations. In conclusion, the essential question of this research area—“Does seeking MH treatment, compared with not seeking treatment, cause career harm?”—has not been addressed scientifically. At a minimum, longitudinal studies before treatment initiation are required, with multiple data collection waves comprising symptom measurement, treatment, and other services obtained, and a content-valid measure of career impact.

## INTRODUCTION

### Rationale

Despite the awesome power of the F-22 fighter jet, the M-1 Abrams tank, or the Ohio-class submarine, the most valuable and complex weapon in the U.S. Military's armament is the human weapon system.<sup>1</sup> The human weapon system “shares common features with all other weapons. It is fallible, influenced both positively and negatively by external factors, and requires periodic maintenance.<sup>2”</sup>

However, the human weapon system has some unique features that make it exceptionally challenging to maintain.

\*Family Translational Research Group, New York University, New York, NY 10010, USA

†Air Force Medical Readiness Agency, United States Air Force (via a contract with Analytical Services and Materials [USA]), JBAS Lackland AFB, TX 78236-1025, USA

The views expressed are solely those of the authors and do not reflect the official policy or position of the U.S. Air Force.

doi:<https://doi.org/10.1093/milmed/usab283>

© The Association of Military Surgeons of the United States 2021. All rights reserved. For permissions, please e-mail: [journals.permissions@oup.com](mailto:journals.permissions@oup.com).

First, military leaders primarily rely on each human to maintain himself or herself. Second, humans have the autonomy to choose avoiding needed maintenance unless performance is so degraded that commanders order them to specialized services (e.g., mental health [MH] treatment). Third, humans have self-awareness and may conclude that the needed maintenance may result in their being excised, thus leading to active avoidance.

Thus, despite U.S. Armed Forces' leadership making human resources risk management top priorities in the 21st century,<sup>3</sup> suicide and MH problems continue to be crucial concerns in maintaining operational readiness.<sup>4</sup> To this end, both public health campaigns<sup>5</sup> and research<sup>6-8</sup> have been conducted on reducing MH treatment stigma.

Yet stigma is only of many barriers in service members' (SMs) complex and multi-faceted decisions about pursuing MH treatment. Part of the calculus is whether there are actual career ramifications of pursuing treatment (and what they are). This is not an idle threat to military members; in 2014, a RAND report identified 203 U.S. Military policies that contribute to MH treatment stigma and to direct negative career consequences.<sup>6</sup> Furthermore, direct career implications vary by military career field. For example, in the U.S. Air Force, duty restrictions related to MH treatment pursuit can be incurred by those with jobs involving nuclear, biological, and chemical weapons (i.e., the Personnel Reliability Program), pilots of both traditional and remotely piloted aircraft, and security forces.

Furthermore, the perception that there are career consequences may ultimately guide behavior, regardless of whether there truly are career ramifications for pursuing MH treatment among active duty members experiencing psychological or behavioral problems. Thus, any investigation of the career impacts of instigating MH treatment must consider both the actual and the perceived consequences.

Finally, the earliest studies in this area focused on active duty members receiving MH treatment and investigated whether being self- versus command-referred was associated with career-impacting recommendations. The DoD Psychological Health Center of Excellence's guidance on career concerns<sup>9</sup> has used this literature to stress the importance of seeking treatment early.

Thus, we conducted a systematic review of research on the career impact of receiving MH treatment. Given that policies differ across time, historical context, country-based policies, and active duty versus National Guard, Reserve, or veteran status, we limited our search to the literature on the active duty U.S. Military published since January 1, 2000.

### Objectives

This systematic review sought to synthesize and critically evaluate studies addressing the following three research questions:

1. Is the manner in which U.S. active duty military members seek MH treatment associated with career-affecting recommendations from providers?
2. Does MH treatment-seeking in U.S. active duty military members impact military careers, compared with not seeking treatment?
3. Do U.S. active duty military members perceive that seeking MH treatment is associated with negative career impacts?

## METHOD

### Search Strategy

We conducted a systematic search of Google Scholar for relevant studies from January 1, 2000 through December 15, 2020. Search terms were "military" and "career impact" and "mental health" or "behavioral health" (The search was later replicated in Medline and PsycInfo.). A supplemental search in Medline, PsycInfo, and Google Scholar replacing "career impact" with "stigma" was conducted in April 2021. The review protocol can be found in Online Supplement 1. Relevant articles located from (1) the reference lists of included articles, (2) those citing included studies, and (3) content-area expert suggestions were also reviewed.

### Study Selection

Articles were selected for inclusion based on the following criteria: (1) published in English, (2) published or released between 2000 and 2020, (3) reported findings on U.S. active duty SMs, and (4) empirically studied actual or perceived career impact of MH treatment. Exclusion criteria included (a) findings on National Guard, Reserve, veteran, or military dependent populations and (b) failure to separate results for active duty participants from other participants. The search was conducted December 2020–January 2021.

Two researchers (E.L.P. and A.M.P.) reviewed titles and abstracts for eligibility ( $n = 703$ ). Full-text articles ( $n = 61$ ) were assessed for eligibility: 27 clearly met inclusion criteria, 23 did not investigate career impact and were excluded, and 34 were labeled as "maybe" being eligible, so two Ph.D.-level researchers (R.E.H. and A.M.P.) independently coded these articles on the eligibility criteria (agreement = 100% regarding eligibility). Thirty-eight articles met eligibility criteria, plus an additional 16 from the supplemental search, for a total of 54 studies.

## RESULTS

The number of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage can be found in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)<sup>10</sup> flowchart in Figure 1. Following PRISMA guidelines,<sup>10</sup> a table structure was created with the following elements: authors, population, sample, intervention type, comparison group, outcomes, and study findings. Data were extracted from the original

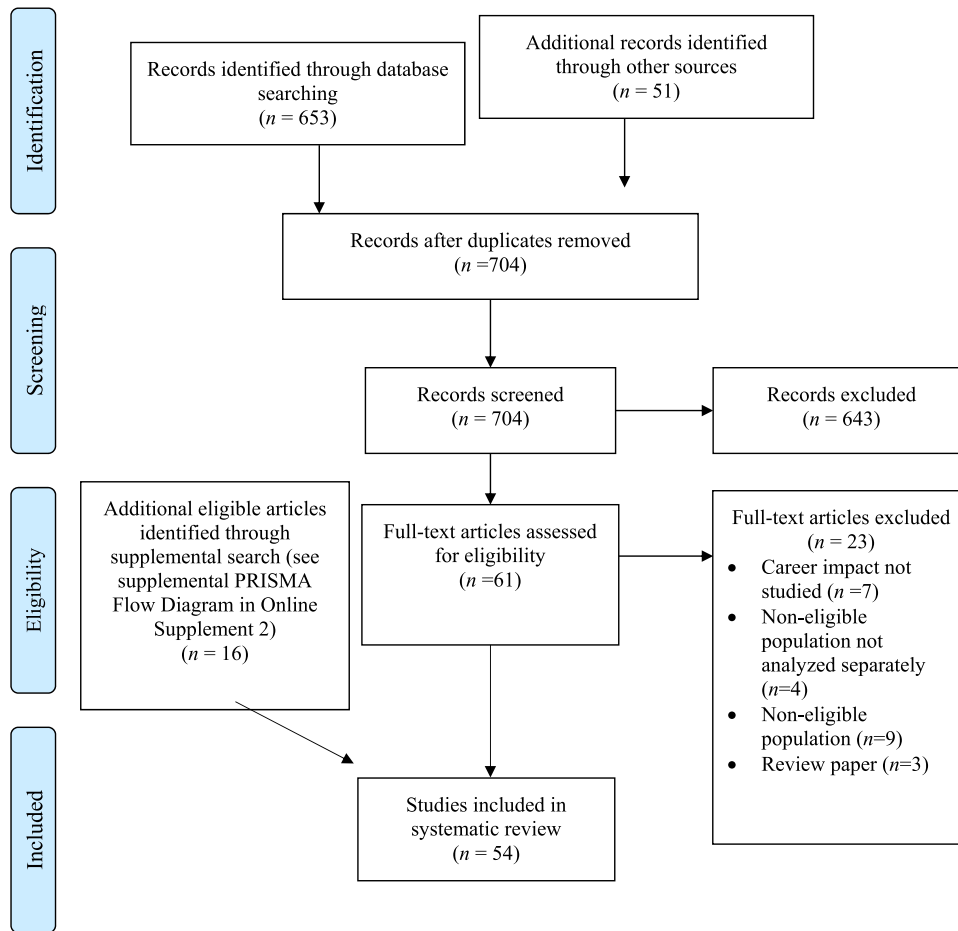


FIGURE 1. PRISMA Flow Diagram for Systematic Review of Military Career Impact of Mental Health Treatment.

reports by E.L.E. and reviewed by R.E.H. Table I provides the complete study characteristics.

**Research Question #1: Is the Manner in Which U.S. Active Duty Military Members Seek MH Treatment Associated with Career-affecting Recommendations from Providers?**

Five of the eight studies investigating research question #1 used Rowan and Campise’s<sup>11</sup> operationalization collapsing MH provider recommendations in two overarching categories. First is “career-affecting recommendations” from MH treatment providers: (1) temporary change of duty, including duty restrictions; (2) occupational changes, including career retraining or loss of special statuses such as flight status and Personnel Reliability Program; and (3) discharge. Second is non-career-affecting recommendations: (1) no contact with commanders required, (2) return to duty, (3) recommendations that commanders provide small adjustments or support, and (4) recommendations for additional treatment outside of the outpatient MH clinic.

**Treatment not during deployment**

As shown in Table I, three studies used outpatient MH treatment records to investigate this research question with non-deployed SMs. The two studies with the best statistical power<sup>11,12</sup> found that airmen who were command-directed to MH treatment were significantly more likely to receive career-affecting recommendations from providers (39%-86%) than were airmen who were self-referred or command-encouraged (3%-28%). In addition, self-referred, compared with command directed, airmen were more likely to be treated for something other than a psychiatric problem (i.e., a V-code—“Other Conditions That May Be a Focus of Clinical Attention”). The third, small (N = 35) study<sup>13</sup> found that career-affecting recommendations were not related to Marines’ demographic, military, and clinical-presentation characteristics. An additional study by Hoge<sup>14</sup> studied the career impact of inpatient hospitalization, with soldiers treated for psychiatric problems significantly more likely to be separated than those treated for non-psychiatric problems.

**TABLE I.** Studies of the Association between Mental Health Treatment Seeking and Career Impact/Perceptions of Career Impact

Authors	Population <sup>65a</sup>	Sample <sup>65b</sup>	Intervention type <sup>65c</sup>	Comparison group <sup>65d</sup>	Outcomes <sup>65e</sup>	Findings
Research Question #1: Is the manner in which U.S. active-duty military members seek MH treatment associated with career-impacting recommendations from providers? MH-Treatment Sought Not During Deployment						
Ghahramanlou-Holloway et al. (2018) — Study 1 <sup>13</sup>	USMC	N=38; Population of outpatient MH in 2009 Ranks: E1-E3: 66.7% E4-E5: 33.3%	Outpatient MH treatment	Within MH-treatment seekers: Self-referral vs. other recommended vs. other mandatory	<ul style="list-style-type: none"> <li>• Career-affecting recommendations<sup>65f</sup></li> <li>• Non-career-affecting recommendations<sup>65g</sup></li> </ul>	<p><i>Career-Impact Findings</i></p> <ul style="list-style-type: none"> <li>• Career-affecting treatment recommendations (44.7% of sample) not related to demographics, rank, referral source, or clinical factors (including suicidality)</li> </ul> <p><i>Career-Impact Findings</i></p> <ul style="list-style-type: none"> <li>• Referral source significantly related to outcome</li> <li>• Commander-directed SMs were more likely to receive career-affecting recommendations than were self-referred or command-encouraged SMs</li> </ul>
Ghahramanlou-Holloway et al. (2019) — Study 1 <sup>12</sup>	USAF	N=370; Random sample of MH seeking personnel from 9 outpatient MH clinics representative of each Air Force major command (except U.S. Air Forces in Europe — Air Forces Africa) in 2010 Ranks: E1-E4: 50% E5-E9: 40.4% O1-O6: 9.6%	Outpatient MH treatment	Within MH-treatment seekers: Self-referral vs. other recommended vs. other mandatory	<ul style="list-style-type: none"> <li>• Career-affecting recommendations<sup>f</sup></li> <li>• Non-career-affecting recommendations<sup>g</sup></li> </ul>	<p><i>Contextualizing Findings</i></p> <ul style="list-style-type: none"> <li>• 17.8% of sample excluded because of medical provider referral</li> <li>• Youth, higher rank, command-encouraged referral, more symptoms at intake, and history of psychiatric inpatient treatment all accounted for unique variance in predicting career-affecting recommendations.</li> <li>• Self-referred, vs. commander-directed, more likely to receive V-code diagnosis (30.7% vs. 0%) and less likely to receive an adjustment disorder diagnosis (29.9% vs. 71.4%).</li> </ul>
Hoge et al. (2005) <sup>14</sup>	USA	N=13,971; population of hospitalized soldiers in 1998 (Ranks not provided)	In-patient MH treatment	Inpatient non-MH treatment	<ul style="list-style-type: none"> <li>• Remaining on active duty</li> <li>• Separation</li> </ul>	<p><i>Career-Impact Findings</i></p> <ul style="list-style-type: none"> <li>• Separation was higher for SMs primarily hospitalized for MH disorders (45%) and secondarily for MH disorders (27%) vs. non-MH illnesses (11%).</li> <li>• MH hospitalization strongly associated with separation due to AD-related disability and to conditions predating service.</li> </ul>

(continued)

TABLE I. (Continued)

Rowan & Campsie (2006) <sup>11</sup>	USAF	N=1068; Population of all AD members served a USAF outpatient MH clinic in 2002 Ranks: E1-E4: 54% E5-E9: 37% O1-O6: 9%	Outpatient MH treatment	Within MH-treatment seekers: Self-referral vs. other recommended vs. other mandatory	• Career-affecting recommendations <sup>f</sup> • Non-career-affecting recommendations <sup>g</sup>	Career-Impact Findings • Career-affecting recommendations were least likely for self-referred SMs (3%) and most likely for commander-directed SMs (39%) <i>Contextualizing Findings</i> • Self-referred Airmen more likely to be younger, female, and single. • Self-referred, vs. command-directed, more likely to receive a V-code diagnosis (42% vs. 9%) and less likely to receive a non-adjustment disorder Axis I diagnosis (28% vs. 42%).
MH-Treatment Sought During Deployment Christensen & Yaffe (2012) <sup>15</sup>	Sample 1: USAF (93.8%); USA (3.0%); USN/USMC (3.2%) Sample 2: USAF (86.2%); USA (11.8%); USN/USMC (2.0%)	Population of deployed SMs at Al Udeid Air Base, Qatar in 2005 (n = 246) and non-deployed SM in 2002 (n = 1,367) from 8 USAF bases. Non-deployed sample is the same as that in Rowan & Campsie (2006) but included non-USAF SMs excluded from that study. Ranks: E1-E4: 52.4% E5-E9: 38.1% O1-O6: 9.5%	Outpatient MH treatment during deployment	Deployed vs. non-deployed	• Duty restrictions • No restrictions	Career-Impact Findings • Deployed SMs were more likely to receive duty restrictions (16%) compared with the non-deployed SMs (10%). • Same result when examining only self-referred SMs (15% vs. 4%). <i>Contextualizing Findings</i> • Non-deployed sample had higher rates of no diagnosis (18.7% vs. 12.7%) and lower rates of Major Depressive Disorder (8.0% vs. 19.1%). Non-deployed also had higher rates of "Other Axis I" (not Adjustment Disorder, Major Depressive Disorder, or anxiety disorders; 14.2% vs. 4.1%)
Conway et al. (2016) <sup>16</sup>	USA USN USMC	SMs deployed to Operation Iraqi Freedom combat theater January 2006–January 2007 (N=9037). Population of SMs treated for MH (n=964) or noncombat injury (n=853) and a random sample of non-treated deployed SM controls (n=7220). Ranks for SMs treated for MH; noncombat injuries; and non-treated controls: E1-E3: 48.2%; 49.6%; 34.7% E4-E9: 47.6%; 42.1%; 51.1% O1-O6: 4.1%; 8.3%; 14.2%	Outpatient MH treatment during deployment	Non-combat/non-MH treatment and no treatment	• Remaining on active duty • Early separation	Career-Impact Findings • MH treatment during deployment associated with early separation for medical and punitive reasons. <i>Contextualizing Findings</i> • SMs receiving in-theater MH treatment also more likely to receive pre-deployment and post-deployment MH diagnosis
Rowan et al. 2014 <sup>17</sup>	USA	N=1640 Population of SMs seeking outpatient MH treatment while deployed in Afghanistan (year of survey not provided) Ranks: E1-E4: 59% E5-E9: 33% O1-O6: W1-W4: 7% Missing: 1%	Outpatient MH treatment during deployment	Within MH-treatment seekers: Self-referral vs. other recommended vs. other mandatory	• Career-affecting recommendations <sup>f</sup> • Non-career-affecting recommendations <sup>g</sup>	Career-Impact Findings • Career-affecting recommendations were least likely for self-referred SMs, more likely for command-directed SMs <i>Contextualizing Findings</i> • Severity of diagnosis associated with career-affecting recommendations

(continued)

TABLE I. (Continued)

Authors	Population <sup>65a</sup>	Sample <sup>65b</sup>	Intervention type <sup>65c</sup>	Comparison group <sup>65d</sup>	Outcomes <sup>65e</sup>	Findings
Varga et al. 2018 <sup>18</sup>	USA	N=1639 SMs; Population of all SMs seeking MH treatment from 2006-2007 while deployed in Afghanistan (Ranks not provided)	Outpatient MH treatment during deployment	Prior MH treatment vs. no-prior treatment	<ul style="list-style-type: none"> <li>• Career-affecting recommendations<sup>f</sup></li> <li>• Non-career-affecting recommendations<sup>g</sup></li> </ul>	<p><i>Career-Impact Findings</i></p> <ul style="list-style-type: none"> <li>• Prior MH treatment (vs. not) reduced odds of receiving career-impacting recommendations by 58% (even after controlling for demographics and number of previous deployments).</li> </ul> <p><i>Contextualizing Findings</i></p> <ul style="list-style-type: none"> <li>• Career-impacting recommendations associated with being deployed at least once, but not after controlling for demographics.</li> </ul>
Research Question #2: Does MH treatment seeking, compared in U.S. active-duty military members impact military careers, compared with not seeking treatment? Ghahramanlou-Holloway et al. (2018)—Study 2 <sup>13</sup>	USMC	N=178 (n = 40 random sample outpatient MH treatment-seeking SMs; controls: N=138 random sample non-treatment-seeking SMs matched on rank, time in grade, and military occupational specialty) followed for 5.67 years (January 1, 2009 – August 31, 2014) (Ranks not provided)	Outpatient MH treatment	Non-treatment seeking matched controls	<ul style="list-style-type: none"> <li>• Still on AD</li> <li>• Security clearance changes</li> <li>• Legal action, including non-judicial punishment</li> <li>• Discharged</li> <li>• Completion of service</li> <li>• Voluntary separation</li> <li>• Involuntary separation</li> </ul>	<ul style="list-style-type: none"> <li>• MH-treatment seekers and controls did not differ on changes in security clearance over time.</li> <li>• MH treatment-seeking SMs, compared with matched controls, were more likely to be discharged (95.0% vs. 63.0%), but no more likely to be involuntary separated.</li> <li>• More likely to have legal action (45.0% vs. 23.9%)</li> <li>• Less time in military following initial MH encounter (1.5 vs. 2.1 years). Even after controlling for treatment, legal action predicted separation.</li> <li>• MH-treatment seekers and controls did not differ on changes in security clearance over time.</li> <li>• MH-treatment seekers were more likely than controls to receive a medical board evaluation (16% vs. 6%)</li> <li>• to be discharged for any reason (24% vs. 15%)</li> <li>• Receive an involuntary or force-adjustment separation (4.5% vs. 1.5%)</li> </ul>
Ghahramanlou-Holloway et al. (2019)—Study 2 <sup>12</sup>	USAF	N=1479 (n=332 Population MH treatment-seeking SMs; controls: N=1147 random sample non-treatment-seeking SMs matched on rank, time in grade, and occupational specialty) followed for 3.5 years (January 1, 2009 – June 30, 2012). (Ranks not provided)	Outpatient MH treatment	Non-treatment-seeking matched controls	<ul style="list-style-type: none"> <li>• Still on AD</li> <li>• Security clearance changes</li> <li>• Discharged</li> <li>• Completion of service</li> <li>• Voluntary separation</li> <li>• Involuntary or force adjustment separation</li> </ul>	<ul style="list-style-type: none"> <li>• MH-treatment seekers and controls did not differ on changes in security clearance over time.</li> <li>• MH-treatment seekers were more likely than controls to receive a medical board evaluation (16% vs. 6%)</li> <li>• to be discharged for any reason (24% vs. 15%)</li> <li>• Receive an involuntary or force-adjustment separation (4.5% vs. 1.5%)</li> </ul>
Research Question #3: Do U.S. active-duty military members perceive that seeking MH treatment is associated with negative career impacts? Quantitative Studies: General Population Samples, Not During or Immediately on Returning from Deployment 2002 DoD Health Related Behaviors Survey of AD Military Personnel <sup>19</sup>	USAF USA USN USMC	N=12,756 Random sample AD SMs in 2002 E1-E3: 19.72% E4-E9: 60.57% W1-W5: 3% O1-O10: 16.71%	N/A	N/A	<p>Perception of career impact: "It would harm my career"</p>	<ul style="list-style-type: none"> <li>• 48.1% agreed that seeking MH treatment definitely or probably would harm their careers</li> <li>• Agreed that MH treatment would harm their careers: <ul style="list-style-type: none"> <li>• SMs who perceived a need for MH treatment but did not seek it: 66.9.0%</li> <li>• SMs who perceived a need and sought treatment: 50.4%</li> </ul> </li> </ul>

(continued)

TABLE I. (Continued)

2003 Army Land Combat Survey <sup>32</sup>	USA	2003 N = 3,986 E1-E4: 63.6% E5-E9: 29.8% Officer: 6.5%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>• 27.80% agreed that seeking MH treatment would harm their careers.</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 49.6%</li> <li>• Screening negative: 30.1%</li> </ul> </li> </ul>
2004 Army Land Combat Survey <sup>32</sup>	USA	2004 N = 10,334 E1-E4: 63.8% E5-E9: 29.8% Officer: 6.4%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>• 25.20% agreed that seeking MH treatment would harm their careers.</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 42.8%</li> <li>• Screening negative: 26.5%</li> </ul> </li> </ul>
2005 Army Land Combat Survey <sup>32</sup>	USA	2005 N = 260 E1-E4: 53.1% E5-E9: 40.2% Officer: 6.6%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>• 18.20% agreed that seeking MH treatment would harm their careers</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 37.8%</li> <li>• Screening negative: 19.5%</li> </ul> </li> </ul>
2005 DoD Health Related Behaviors Survey of AD Military Personnel <sup>30</sup>	USA USAF USA USN USMC	N = 16,146 Rando sample AD SMs in 2005 E1-E3: 16.1% E4-E9: 59.4% W1-W5: 2.5% O1-O10: 22%	N/A	N/A	Perception of career impact: "It 'definitely or probably would damage my career"	<ul style="list-style-type: none"> <li>• 44.1% agreed that seeking MH treatment would harm their careers</li> <li>• Agreed that MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• SMs who perceived a need for MH treatment but did not seek it: 63.2%</li> <li>• SMs who perceived a need and sought treatment: 47.9%</li> </ul> </li> </ul>
2006 Army Land Combat Survey <sup>32</sup>	USA	2006 N = 1,120 E1-E4: 49.5% E5-E9: 39.9% Officer: 10.5	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>• 19.20% agreed that seeking MH treatment would harm their careers</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 31.0%</li> <li>• Screening negative: 20.0%</li> </ul> </li> </ul>
2007 Army Land Combat Survey <sup>32</sup>	USA	2007 N = 1,389 E1-E4: 58.2% E5-E9: 35.9% Officer: 5.9%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>• 18.00% agreed that seeking MH treatment would harm their careers</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 33.6%</li> <li>• Screening negative: 17.7%</li> </ul> </li> </ul>

(continued)

TABLE I. (Continued)

Authors	Population <sup>65a</sup>	Sample <sup>65b</sup>	Intervention type <sup>65c</sup>	Comparison group <sup>65d</sup>	Outcomes <sup>65e</sup>	Findings
2008 Army Land Combat Survey <sup>32</sup>	USA	2008 N = 1,874 E1-E4: 62.7% E5-E9: 31.5% Officer: 5.8%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>• 18.30% agreed that seeking MH treatment would harm their careers</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 32.3%</li> <li>• Screening negative: 21.2%</li> </ul> </li> </ul>
2009 DoD Health Related Behaviors Survey of AD Military Personnel <sup>21</sup>	USAF USA USN USMC	N=28,546 Random sample AD SMs in 2008 E1-E3: 20.1% E4-E9: 59% W1-W5: 3% O1-O10: 17.9%	N/A	N/A	Perception of career impact: "It 'definitely or probably would' damage my career"	<ul style="list-style-type: none"> <li>• 36.1% agreed that seeking MH treatment would harm their careers</li> <li>• Among respondents with no MH disorders, career impact concerns not related to race/ethnicity.<sup>68</sup></li> <li>• Among respondents perceiving career impact of seeking MH treatment, Asian SMs were less likely to seek treatment.<sup>68</sup></li> <li>• 13.0% agreed that seeking MH treatment would harm their careers</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 27.4%</li> <li>• Screening negative: 17.6%</li> </ul> </li> </ul>
2009 Army Land Combat Survey <sup>32</sup>	USA	2009 N = 1,077 E1-E4: 57.6% E5-E9: 34.3% Officer: 8.1%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>• 23.7% agreed that seeking MH treatment would harm their careers</li> <li>• Soldiers who agreed that receiving MH treatment would harm their careers                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 41.5%</li> <li>• Screening negative: 20.9%</li> </ul> </li> </ul>
2011 Army Land Combat Survey <sup>32</sup>	USA	2011 N = 2,587 E1-E4: 56.1% E5-E9: 33.6% Officer: 10.3%	N/A	N/A	Perception of career impact: "It would damage my career"	<ul style="list-style-type: none"> <li>• 37.7% agreed that seeking MH treatment would harm their careers</li> <li>• Agreed that MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• SMs who perceived a need for MH treatment but did not seek it: 53.0%</li> <li>• SMs who perceived a need and sought treatment: 40.5%</li> </ul> </li> <li>• Of SMs seeking MH treatment in the past year, 21.3% reported it had a negative effect on their careers: highest in USMC (26.2%) and USN (24.3%).</li> </ul>
2011 DoD Health Related Behaviors Survey of AD Military Personnel <sup>22</sup>	USAF USA USN USMC	N=34,416 AD Random sample non-deployed SMs in 2011 E1-E4: 31.2% E5-E9: 44.5% W1-W5: 4.2% O1-O10: 20.1%	SMs seeking help for a for an MH disorder in the past year	SMs not seeking help for a for an MH disorder in the past year	Perception of career impact: "It would damage my career"	<ul style="list-style-type: none"> <li>• 37.7% agreed that seeking MH treatment would harm their careers</li> <li>• Agreed that MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• SMs who perceived a need for MH treatment but did not seek it: 53.0%</li> <li>• SMs who perceived a need and sought treatment: 40.5%</li> </ul> </li> <li>• Of SMs seeking MH treatment in the past year, 21.3% reported it had a negative effect on their careers: highest in USMC (26.2%) and USN (24.3%).</li> </ul>

(continued)



TABLE I. (Continued)

2014 DoD Health Related Behaviors Survey of AD Military Personnel <sup>27</sup>	USAF USA USN USMC	N=45,986 randomly selected non-deployed AD SMs in 2014 E1-E4: 10.8% E5-E9: 42% W1-W5: 5.1% O1-O10: 42.2%	N/A	N/A	Perception of career impact: "It would damage my career"	<ul style="list-style-type: none"> <li>Among SMs screening positive for an MH disorder, % who agreed that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>High depressive symptoms: 55.0%</li> <li>High anxiety symptoms: 54.4%</li> <li>High post-traumatic stress symptoms: 65.6%</li> <li>High perceived stress: 46.6%</li> </ul> </li> </ul>
2015 DoD Health Related Behaviors Survey of AD Military Personnel <sup>25</sup>	USAF USA USN USMC USCG	N=16,699 randomly selected non-deployed AD SMs in 2015 E1-E4: 44.5% E5-E9: 38.3% W1-W5: 1.4% O1-O10: 15.9%	N/A	N/A	Perception of career impact: "It would damage my career"	<ul style="list-style-type: none"> <li>35% agreed that seeking MH treatment would harm their careers</li> <li>Of SMs who perceived a need for MH treatment but did not seek it, 34.5% did not do so because of the perception that it would damage their careers.</li> </ul>
2016 Status of Forces Survey of AD Members <sup>35</sup>	USAF USA USN USMC	Phase I: N=14,088 randomly selected AD SMs in 2016 Enlisted: 52.3% Officer: 47.8%	N/A	N/A	Perception of career impact	Likelihood of seeking MH treatment associated with concern about career impact.
2018 DoD Health Related Behaviors Survey of AD Military Personnel <sup>68</sup>	USAF USA USN USMC	N=17,166 randomly selected non-deployed active component SMs in 2018 E1-E4: 42.6% E5-E6: 29.7% E7-E9: 9.8% W1-W5: 1.4% O1-O3: 10.1% O4-O6: 6.3%	N/A	N/A	Perception of career impact: "It would damage my career"	<ul style="list-style-type: none"> <li>34.3% agreed that seeking MH treatment would harm their careers</li> <li>Of SMs who perceived a need for MH treatment but did not seek it, 40.1% did not do so because of the perception that it would damage their careers.</li> </ul>
Britt et al. (2015) <sup>28</sup>	USA	N=1324; random sample AD soldiers (year of data collection not provided) E1-E4: 65% E5-E9: 29% O1-O4: 7%	N/A	N/A	Perception of career impact: Three items: "It hurt my chances of getting promoted;" "It might affect my security clearance;" "It Would lead to me getting discharged"	<ul style="list-style-type: none"> <li>SMs who screened positive for an MH problem had significantly higher career impact perceptions (M = 2.79 vs. 2.46 per item on 1 (strongly disagree) to 5 (strongly agree) scale.</li> <li>Career impact perceptions were associated with treatment seeking and dropout.</li> </ul>
Britt et al. (2016) <sup>69</sup>	USA	N=1725; random sample of AD soldiers (ranks and year of data collection not provided)	N/A	N/A	Perception of career stigma and negative and positive views toward MH treatment	<ul style="list-style-type: none"> <li>Career stigma had moderate effect size relations with both positive (r=-.32) and negative (r=0.41) views toward MH treatment.</li> </ul>
Hoge et al. (2004) <sup>29</sup>	USA USMC	N=6201 Populations of an Army and a Marine brigade. AD SM (n=2530 pre-deployment, n=3671 post-deployment in Iraq or Afghanistan) E1-E4: 63.60/69% E5-E9: 29.32/29% O1-O4: 8.8/3% Marines - after deployment to Iraq E1-E4: 84% E5-E9: 12% O1-O4: 4%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>Among SMs screening positive for an MH disorder, % who agreed that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>Screening positive for an MH disorder: 50%</li> <li>Screening negative: 24%</li> </ul> </li> </ul>

(continued)

TABLE I. (Continued)

Authors	Population <sup>65a</sup>	Sample <sup>65b</sup>	Intervention type <sup>65c</sup>	Comparison group <sup>65d</sup>	Outcomes <sup>65e</sup>	Findings
Kim et al. (2010) <sup>30</sup>	USA	N=8118 (n=4502 at T1, n=3616 T2) Random sample AD soldiers returning from combat at 3- and 12- months post-deployment from Iraq Data collected from December 2003 – October 2007 T1 Rank E1-E4: 63.2% E5-E6: 2.5% E7-E9: 4.1% Officer = 7.7% T2 Rank E1-E4: 54.4% E5-E6: 34.4% E7-E9: 5% Officer: 6.2%	N/A	N/A	Perception of career impact: "It would harm my career"	Among SM meeting criteria for MH problems, 31% believed seeking MH treatment would harm their careers (at T1 and T2)
Kim et al. (2011) <sup>31</sup>	USA	N=2623 Random sample AD soldiers previously deployed to Iraq or Afghanistan at least once since 9/11/2001. Data collected in Nov-Dec 2008 and June 2009. E1-E4: 54% E5-E9: 39% Officer: 7%	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>Soldiers agreeing that receiving MH treatment would harm their careers:</li> <li>Screening positive for an MH disorder or reporting frequent aggressive behaviors, problems in relationships, stress, or alcohol: 23.8%</li> <li>Screening negative: 11.9%</li> </ul>
Mental Health Advisory Team-Korea (8th Army) <sup>34</sup>	USA	N=1613 Random sample soldiers stationed in Korea in 2015-16. E1-E4: 68.2% E5-E9: 23.8% O1-O6: 8.1%	N/A	N/A	Perception of career impact: "It would harm my career"	12.5% of soldiers agreed that receiving MH treatment would harm their careers.
Momen et al. (2012) <sup>34</sup>	USMC	N=553 Random sample enlisted Marines (year of survey not provided) E1-E4: 14.3% E5-E9: 51.6% O1-O4: 31.4%	N/A	N/A	Perception of career impact: "Fear of negative impact on career"	36.5% of Marines agreed that receiving MH treatment would harm their careers
Navy Behavioral Health Quick Poll, 2010; Cited in Acosta et al. 2014 <sup>25</sup>	USN	N, ranks, sampling methods not provided in Acosta et al. 2014 <sup>26</sup>	N/A	N/A	Perception of career impact: "It would have a negative effect on my career"	<ul style="list-style-type: none"> <li>37% of officers agreed that MH treatment seeking would harm their careers</li> <li>86% of officers and 91% of enlisted sailors believe that they would lose their clearances if they received MH treatment</li> </ul>
Navy Behavioral Health Quick Poll, 2011; Cited in Acosta et al. (2014) <sup>26</sup>	USN	N, ranks, sampling methods not provided in Acosta et al. (2014) <sup>26</sup>	N/A	N/A	Perception of career impact: "It would have a negative effect on my career"	<ul style="list-style-type: none"> <li>33% of officers agreed that MH treatment seeking would harm their careers</li> <li>82% of officers and 87% of enlisted sailors believe that they would lose their clearances if they received MH treatment</li> </ul>

(continued)

TABLE I. (Continued)

Ohlstedt et al. (2011) <sup>70</sup>	USA	N=1,436 soldiers from two U.S. posts October 2009 – February 2010. E1–E3: 9.4% E4–E6: 77.7% E7–E9: 5.4% W1–W5: 0.8% O1–O3: 6.1% O4–O10: 0.6%	N/A	N/A	Perception of career impact: “It would have a negative effect on my career”	Soldiers agreeing that receiving MH treatment would harm their careers. $M = 2.24$ (on 1–4 scale), $SD = 0.86$ .
VanStickle et al. (2016) <sup>71</sup>	USMC	N=1,758; Marines participating in a suicide prevention training for E5–E9s in April–October 2009 (April–October). (Specific rank breakdown not provided.)	N/A	N/A	Perception of career impact: “It would harm a Marine’s career”	Marines rated belief that receiving MH treatment would harm careers $M = 2.81$ (on 1–4 scale), $SD = 1.12$ .
Warner et al. 2008 <sup>33</sup>	USA	Random sample $N = 3,294$ SMs pre-deployment in 2007 E1–E4: 60.2% E5–E9: 34.2% WO/O1–O3: 5.3 O4–O6: 0.3%	N/A	N/A	Perceptions of impacts: “It would harm my career”	<ul style="list-style-type: none"> <li>• 18.5% of SMs agreed that receiving MH treatment would harm their careers.</li> <li>• 20.9% of SMs perceived that evidence of MH care in their medical records would harm their careers</li> </ul>
Qualitative Studies: General Population Samples, During or Immediately on Returning from Deployment						
Westphal, 2007 <sup>36</sup>	USN	Convenience sample $N = 19$ leaders (8 commanding officers, 7 executive officers, and 4 command master chief petty officers) (Year of interviews not provided)	N/A	N/A	Perception of career impact elicited during focus groups.	<ul style="list-style-type: none"> <li>• In a qualitative study, leaders said that MH problems early in a career have minimal impact                             <ul style="list-style-type: none"> <li>◦ Possible career impact increases as rank increases</li> <li>◦ Officers believed MH treatment has a negative impact on officers’ careers; NCOs did not believe the same for NCOs.</li> </ul> </li> </ul>
Zinzow et al. (2017) <sup>37</sup>	USA	Convenience samples General Sample: $n = 78$ soldiers E1–E4: 24.35% E5–E7: 24.35% O1–O5: 51.3% Treatment Sample: $n = 32$ soldiers who had received MH treatment. (Ranks not provided)	N/A	N/A	Perception of career impact elicited during focus groups. Code-book definition comprised: lack of advancement; discharge; differential treatment (e.g., different duties, held on location longer/shorter, not trusted by other unit members); interference with job duties	<ul style="list-style-type: none"> <li>• In the general sample focus groups, all 6 enlisted and 6 officer groups listed career impacts as a barrier to MH treatment.</li> <li>• In the treatment-receiving focus groups, 11 of 17 junior enlisted SMs and 9 of 15 senior enlisted SMs/officers listed career impacts</li> </ul>
Quantitative Studies: General Population Samples, During or Immediately on Returning from Deployment						
Gould et al. (2010) <sup>38</sup>	USA	$N = 2241$ Sample of Brigade Combat Team within a week of their return home following a year-long deployment to Iraq (UK and New Zealand data excluded) Rank Junior: 55% Senior: 37% Officer: 7%	N/A	N/A	Perception of career impact: “It would have a negative effect on my career”	<ul style="list-style-type: none"> <li>• SMs agreeing that that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>• Screening positive for an MH disorder: 28%</li> <li>◦ Screening negative: 18%</li> </ul> </li> </ul>
Mental Health Advisory Team I: Operation Iraqi Freedom <sup>39</sup>	USA	$N = 577$ Random sample of soldiers deployed to Iraq in 2003 E1–E4: 63% E5–E6: 28% E7–E9: 2% WO/O1–O6: 7%	N/A	N/A	Perception of career impact: “It would harm my career”	Among soldiers screening positive for an MH disorder, 36% agreed that seeking MH treatment would harm their careers

(continued)

TABLE I. (Continued)

Authors	Population <sup>65a</sup>	Sample <sup>65b</sup>	Intervention type <sup>65c</sup>	Comparison group <sup>65d</sup>	Outcomes <sup>65e</sup>	Findings
Mental Health Advisory Team III: Operation Iraqi Freedom 04–06 <sup>40</sup>	USA	N=1123 Random sample of soldiers deployed to Iraq in 2004–2006 E1-E4: 60% E5-E6: 31% E7-E9: 3% WO/O1–O6: 6%	N/A	N/A	Perception of career impact: "It would harm my career."	Among soldiers screening positive for an MH disorder, 31% agreed that seeking MH treatment would harm their careers
Mental Health Advisory Team IV: Operation Iraqi Freedom 05–07 <sup>41</sup>	USA USMC	N=1,767 Random sample of SMs in Iraq (n=1320 soldiers, n=447 Marines) in 2005–2007 For USA and USMC: E1-E4: 57%; 85% E5-E6: 37%; 12% E7-E9: <1%; <1% WO/O1–O6: 5%; 2%	N/A	N/A	Perception of career impact: "It would harm my career."	<i>Career-Impact Findings</i> <ul style="list-style-type: none"> <li>Among SMs screening positive for an MH disorder, 35% of soldiers and 36% of Marines agreed that seeking MH treatment would harm their careers</li> </ul> <i>Contextualizing Findings</i> <ul style="list-style-type: none"> <li>Among SMs screening positive for an MH disorder, 42% of soldiers and 38% of Marines received treatment from a behavioral health provider, primary care provider or chaplain.</li> </ul>
Mental Health Advisory Team IV: Operation Enduring Freedom 2005 — Afghanistan <sup>42</sup>	USA	N=699 Random sample of soldiers deployed to Afghanistan in 2005 E1-E4: 45.1% E5-E9: 48.4% WO/O1–O6: 6.2% Unknown: 0.3%	N/A	N/A	Perception of career impact: "It would harm my career."	Among male E1–E4 soldiers in theater for 9 months screening positive for an MH disorder, 37.4% agreed that seeking MH treatment would harm their careers
Mental Health Advisory Team V: Operation Iraqi Freedom 2006–2008 <sup>43</sup>	USA USMC	N=2994 Random sample of deployed SMs (n=1320 soldiers, n=447 Marines) in 2006–2008 E1-E4: 59.9% E5–E9: 32.8% O1–O6: 6.8% Unknown: 0.5%	N/A	N/A	Perception of career impact: "It would harm my career."	Among male E1–E4 SMs in theater for 9 months screening positive for an MH disorder, 29.1% agreed that receiving MH treatment would harm their careers
Mental Health Advisory Team V: Operation Enduring Freedom 2008 — Afghanistan <sup>44</sup>	USA	N=610 random sample of soldiers deployed to Afghanistan in 2008 E1-E4: 57.1% E5–E9: 35.9% O1–O6: 7.0% Unknown: 0.3%	N/A	N/A	Perception of career impact: "It would harm my career."	Among male E1–E4 soldiers in theater for 9 months screening positive for an MH disorder, 31.2% agreed that seeking MH treatment would harm their careers
Mental Health Advisory Team VI: Operation Iraqi Freedom 2007–2009 <sup>45</sup>	USA	N=2442 Random sample of soldiers deployed to Iraq (n=1260 Maneuver unit platoon, n=1182 Support/sustain unit platoon) in 2007–2009. <ul style="list-style-type: none"> <li>Maneuver platoon SMs:                             <ul style="list-style-type: none"> <li>E1-E4: 19.4%</li> <li>E5-E9: 35%</li> <li>O1–O6: 2.9%</li> </ul> </li> <li>Support/sustain platoon SMs:                             <ul style="list-style-type: none"> <li>Unknown: 0.6%</li> <li>E1-E4: 58.9%</li> <li>E5-E9: 35.4%</li> <li>O1–O6: 4.4%</li> <li>Unknown: 1.4%</li> </ul> </li> </ul>	N/A	N/A	Perception of career impact: "It would harm my career."	Among male E1–E4 soldiers in theater for 9 months screening positive for an MH disorder, 34.4% in maneuver platoons and 26.2% in support/sustain platoons agreed that receiving MH treatment would harm their careers

(continued)

TABLE I. (Continued)

(Joint) Mental Health Advisory Team 7: Operation Freedom 2010 — Afghanistan <sup>46</sup>	USA USMC	N=1246 random sample deployed maneuver unit SMs (n=911 soldiers, n=335 Marines) in Afghanistan in 2010 USA Sample: E1-E4: 65.6% E5-E9: 30.4% O1-O6: 3.5% Unknown: 0.4% USMC Sample: E1-E3: 69.9% E4: 16.1% E5-E9: 11.6% O1-O6: 2.1% Unknown: 0.3%	N/A	N/A	Perception of career impact: "It would harm my career."  ● Among E1-E4 soldiers in theater for 9 months screening positive for an MH disorder, % who agreed that receiving MH treatment would harm their careers: ● Soldiers ● Screening positive for an MH disorder: 29.2% ● Screening negative: 15.4% ● Marines ● Screening positive for an MH disorder: 27.5% ● Screening negative: 12.6%
(Joint) Mental Health Advisory Team 8: Operation Enduring Freedom 2012 — Afghanistan <sup>47</sup>	USA USMC	N=1363 Random sample of maneuver unit SMs (n=994 soldiers, n=369 Marines) in Afghanistan in 2012 USA Sample: E1-E4: 65.4% E5-E9: 30.7% O1-O6: 3.6% Unknown: 0.3% USMC Sample: E1-E3: 59.9% E4-E9: 36.3% O1-O6: 1.9% Unknown: 1.9%	N/A	N/A	Perception of career impact: "It would harm my career."  ● Among E1-E4 soldiers in theater for 7 months screening positive for an MH disorder, % who agreed that receiving MH treatment would harm their careers: ● Soldiers ● Screening positive for an MH disorder: 39.5% ● Screening negative: 17% ● Marines ● Screening positive for an MH disorder: 37% ● Screening negative: 14.7%
Mental Health Advisory Team 9: Operation Enduring Freedom 2013 — Afghanistan <sup>48</sup>	USA	N=849 Random sample of soldiers in Afghanistan in 2013 E1-E4: 64% E5-E9: 31.6% O1-O6: 4.0% Unknown: 0.5%	N/A	N/A	Perception of career impact: "It would harm my career."  ● Among E1-E4 soldiers in theater for 7 months screening positive for an MH disorder, % who agreed that receiving MH treatment would harm their careers: ● Screening positive for an MH disorder: 38.4% ● Screening negative: 18.6%
Steenkamp et al. (2014) <sup>49</sup>	USMC	N = 768 from 4th wave of the Marine Resiliency Study <sup>72</sup> , assessing ground-combat Marines deployed to Iraq or Afghanistan 2008 – 2012. (rank not provided)	N/A	N/A	Perception of career impact: "It would harm my career."  Marines who agreed that receiving MH treatment would harm their careers: ● 1-month pre-deployment: 16.8% ● 1-month post-deployment: 13.0% ● 5-months post-deployment: 11.8% ● 7-months post-deployment: 13.3% ● 16.2% agreed that seeking MH treatment would harm their careers ● Among soldiers completing the survey anonymously, % agreeing that receiving MH treatment would harm their careers: ● Screening positive for an MH disorder: 32.9% ● Screening negative: 14.0%
Warner et al. 2011 <sup>50</sup>	USA	N=3502 Population of SMs from a single brigade combat team following deployment to Iraq or Afghanistan (n=1712 completing an additional anonymous survey) General sample E1-E4: 51.6% E5-E9: 39.9% O1-O3: 6.8% O4+ : 1.7% Anonymous sample E1-E4: 49.9% E5-E9: 41.8% O1-O3: 7.2% O4+ : 1.1%	N/A	N/A	Perception of career impact: "It would harm my career."

(continued)

TABLE I. (Continued)

Authors	Population <sup>65a</sup>	Sample <sup>65b</sup>	Intervention type <sup>65c</sup>	Comparison group <sup>65d</sup>	Outcomes <sup>65e</sup>	Findings
Chapman et al. (2014) <sup>51</sup> Elnitsky et al. (2013) <sup>52</sup>	USA	Quantitative Studies: Specialized Population Samples or Topics N=799 sample of Army combat medics stationed in (a) Europe or (b) Fort Hood. Surveyed at 3- or 12-months post-deployment (n=543) or never deployed (n=256). Ranks: E1-E4: 62% E5-E9: 38%	N/A	N/A	Perception of career impact: "It would have a negative effect on my career"	<ul style="list-style-type: none"> <li>21% of medics agreed that receiving MH treatment would harm their careers;<sup>51</sup> 20.8% men, 21.6% women<sup>52</sup></li> <li>SMs agreeing that receiving MH treatment would harm their careers: <sup>51</sup> <ul style="list-style-type: none"> <li>Screening positive for an MH disorder: 2.4%</li> <li>Screening negative: 19%</li> </ul> </li> </ul>
Hernandez et al. (2014) <sup>53</sup>	USAF	N=211; Respondents to USAF Nursing personnel survey (year unknown) Officer: 53% Enlisted: 47% Unknown: <1% Secondary analysis of 2010 DoD <i>Workplace and Gender Relations Survey of Active Duty Members</i> .	N/A	N/A	Perception of career impact: "It would harm my career."	46% agreed that seeking MH treatment would harm their careers.
Holland et al. (2016) <sup>54</sup>	All branches	SMs who had experienced military sexual trauma (n=542) and those who felt unsafe from sexual assault (n=1,016) were included in the analyses.	N/A	N/A	Perception of career impact: "It would harm my career"	<ul style="list-style-type: none"> <li>SMs agreeing that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>Military sexual assault survivors: 34.4%</li> <li>Non-assaulted SMs who feel unsafe from assault: 31.6%</li> </ul> </li> </ul>
Reger et al. (2013) <sup>55</sup>	USA	N=174; Convenience sample of soldiers deployed to Iraq. Data obtained June 2009 – April 2010. Rank: E1-E4: 49% E5-E9: 37% Officers/warrant officers: 14%	N/A	N/A	Perception of career impact via four items: "If this type of treatment was in my record, I would have fewer career opportunities," "Receiving this treatment would harm my career," "my unit leadership would treat me differently if they knew I was receiving this treatment," "If I were receiving this treatment, it would be OK with me if my NCO knew about it"	<ul style="list-style-type: none"> <li>Soldiers responded based on a hypothetical situation in which they had PTSD symptoms.                             <ul style="list-style-type: none"> <li>Receiving prolonged exposure treatment and virtual reality treatment both evoked significantly lower predictions of career impact than medications did.</li> </ul> </li> <li>There were no significant differences between prolonged exposure and virtual reality treatments.</li> </ul>
Zinzow et al. (2015) <sup>57</sup>	USA	N=627 soldiers who received MH treatment in the past year or screened positive for an MH problem	N/A	N/A	Career stigma subscale <sup>28</sup>	<ul style="list-style-type: none"> <li>Agreement that receiving MH treatment would harm their careers:                             <ul style="list-style-type: none"> <li>Military sexual assault survivors: <math>M = 2.69</math> (on 1-4 scale), <math>SD = 0.91</math></li> <li>Non-assaulted SMs: <math>M = 2.83</math> (on 1-4 scale), <math>SD = 0.94</math></li> </ul> </li> </ul>

(continued)

TABLE I. (Continued)

Author (Year)	Country	Qualitative Studies: Specialized Population Samples, Not During or Immediately on Returning from Deployment	Inpatient MH treatment	N/A	Perception of career impact elicited during focus groups.	Perception of career impact elicited during focus groups.
Adler et al. (2020) <sup>56</sup>	USA	N=12; Inpatient. Sample of inpatient previously deployed soldiers having recently experienced a suicidal crisis (ranks and year of data collection not provided)		N/A	Soldiers feared that voicing MH concerns might result in loss of rank or career. Soldiers were also concerned about involuntarily commitment to psychiatric inpatient units and the career harm that would result.	<ul style="list-style-type: none"> <li>• Soldiers believed                             <ul style="list-style-type: none"> <li>o both commanders and unit members would learn about their receiving MH treatment, despite assurances about confidentiality;</li> <li>o MH treatment would lead to them being seen as weak or malingering; medications may disqualify them from normal job responsibilities;</li> <li>o command support would be limited.</li> </ul> </li> </ul>
Gibbs et al. (2011) <sup>57</sup>	USA	N=270; Sample of soldiers receiving alcohol interventions, MH treatment, and no treatment interviewed in 48 focus groups at six posts June – December 2009; Ranks not provided	N/A	N/A	Perception of career impact elicited during focus groups.	<ul style="list-style-type: none"> <li>o Patients: 39%</li> <li>o Providers: 39%</li> <li>o Care managers: 86%</li> </ul>
Tanielian et al. (2016) <sup>58</sup>	USA	N=76; n=38 patients, 31 health care providers, and 7 care managers randomly selected from 18 Army primary care clinics from six large posts, July 2012 – June 2014. Ranks (of the patients): Enlisted: 50%; Officers: 42%	MH Treatment	Patients vs. Health care providers vs. Care managers	Perception of career impact	<ul style="list-style-type: none"> <li>o Perceptions that receiving MH treatment could harm career:</li> </ul>

<sup>a</sup>Abbreviations: AD=active duty, DoD = Department of Defense, E=enlisted, MH = mental health, NCO = non-commissioned officer, O=Officer, SM = service member, WO=warrant officer  
 Population—USAF = U.S. Air Force; USA = U.S. Army; USCG=US Coast Guard; USN = U.S. Navy; USMC = U.S. Marine Corps.

<sup>b</sup>Sample—N (n of major subgroups); population, random, convenience; describe how obtained.

<sup>c</sup>Mental health evaluation and treatment from services that document contact. Note where services received: during deployment or at duty station (Excluded: chaplains, military family life counselors, embedded support technicians).

<sup>d</sup>Comparison: Those not receiving MH evaluation and treatment; within MH-treatment seekers.

<sup>e</sup>Outcomes: (1) Separation / discharge; (2) Career change; (3) Job limitations: (a) duty limitation (including Personnel Readiness Program disqualifications, arming use of force [weapons carrying] requirements, flight status limitations, and other profiles); (b) security clearance denial; denial of Permanent Change of Station locations/ deployments; (c) other; (4) Perceptions of impacts (i.e., outcome is not of job limitation but instead the assessed personnel's perception of career impacts); (5) Other.

<sup>f</sup>Career-affecting recommendations from mental health treatment providers: (a) temporary change of duty, including duty restrictions; (b) occupational changes, including career retraining or loss of special statuses such as flight status and Personnel Reliability Program; and (c) discharge.

<sup>g</sup>Non-career-affecting recommendations from mental health treatment providers: (a) no contact with commanders required; (b) return to duty; (c) recommendations that commanders provide small adjustments or support; and (d) recommendations for additional treatment outside of the outpatient mental health clinic.

### Treatment during deployment

As shown in Table I, four studies used outpatient MH treatment records to investigate this research question with deployed SMs. Christensen and Yaffe<sup>15</sup> found that deployed airmen, regardless of referral type, were significantly more likely to receive duty restrictions than non-deployed airmen. Nevertheless, duty restrictions were relatively rare in both settings (16% vs. 10%, respectively). Conway<sup>16</sup> found that SMs deployed to Iraq who sought MH treatment were more likely to be separated early for both medical and legal/involuntary reasons. Rowan et al.<sup>17</sup> also found that duty restrictions in soldiers deployed to Afghanistan were rare (10%), comprising about half of all career-affecting recommendations (19%). Replicating the previously discussed non-deployment studies, they found that career-affecting recommendations were least likely for self-referred soldiers, compared with command-encouraged and command-directed soldiers. In contrast to Ghahramanlou-Holloway et al.'s<sup>13</sup> small study of non-deployed U.S. Marines, Rowan et al.<sup>17</sup> found that the severity of deployed soldiers' clinical diagnoses was associated with the likelihood of receiving a career-affecting recommendation. Finally, Varga and colleagues<sup>18</sup> found that, among deployed soldiers, pre-deployment MH treatment reduced the odds of a soldier receiving a career-affecting recommendation in theater by 58%, even after controlling for demographics and the number of previous deployments.

### Research Question #2: Does MH Treatment-seeking in U.S. Active Duty Military Members Impact Military Careers, Compared with Not Seeking Treatment?

Unlike research question #1, which focused on outcomes within treatment seekers, research question #2 focuses on comparing SMs who do, and do not, seek treatment. Two studies, both "study 2" in their respective papers by Ghahramanlou-Holloway and colleagues,<sup>12,13</sup> investigated this question in prospective, case-controlled studies of 3.5-5.67 years. Each identified a sample of MH treatment-seeking SMs ( $ns = 40-332$ ) and matched them on rank, time in grade, and military occupational specialty with randomly selected SMs ( $ns = 138-1,147$ ). Outcomes for both studies were (1) remaining on active duty; (2) change to security clearance change; (3) discharge because of (a) completion of service, (b) voluntary separation, or (c) involuntary separation. The Marine Corps study<sup>13</sup> also investigated legal action, including non-judicial punishment, and the Air Force study<sup>12</sup> also investigated medical board evaluations.

Both studies found no significant differences between MH-treatment seekers and matched controls on changes to security clearances. Both studies found that treatment seekers were more likely to be discharged; the Air Force study,<sup>12</sup> with more statistical power to detect differences, found that treatment-seeking airmen were more likely to receive an involuntary or force-adjustment separation, whereas the

Marine Corps study<sup>13</sup> found no differences. In unique analyses, the Air Force study<sup>12</sup> found that MH-treatment seekers were more likely than controls to receive a medical board evaluation, and the Marine Corps study<sup>13</sup> found that MH-treatment seekers were more likely than controls to (1) to spend less time in the military following their initial MH treatment visit and (2) to face legal action (including non-judicial punishment). Regression analyses indicated that legal action was related to discharge even after controlling for seeking treatment; thus, treatment-seeking and legal action contribute unique, additive influences on the likelihood of discharge.<sup>12</sup>

### Research Question #3: Do U.S. Active Duty Military Members Perceive that Seeking MH Treatment Is Associated with Negative Career Impacts?

Forty-six publicly available studies quantitatively investigated perceptions among active duty SMs that seeking MH treatment could negatively impact their careers. Twenty-eight quantitative studies assessed attitudes of SMs at their permanent duty station, 13 studies assessed attitudes during or while returning from deployment, and 5 assessed attitudes in specialized populations (e.g., medics, nurses, and military sexual assault survivors).

First, in the non-deployed surveys of randomly selected SMs between 2001 and 2018,<sup>19-26</sup> the proportion believing that MH treatment-seeking would harm their careers declined from nearly half in 2002 to a fairly stable 33%-37% since 2008; endorsement rates were higher (27.4%-65.6%) for those who screened positive for an MH disorder.<sup>19,20,27-32</sup> Endorsement rates were lower (13.0%-27.8%) in the eight Army Land Combat Studies,<sup>32</sup> a pre-deployment study of soldiers at one installation published in 2008<sup>33</sup>, a 2008-2009 study of soldiers previously deployed to Iraq and Afghanistan,<sup>31</sup> and in a 2015-2016 study of soldiers stationed in Korea.<sup>34</sup> Second, a 2016 DoD-wide survey<sup>35</sup> linked the professed likelihood of seeking MH treatment associated with concern about career impact. Third, of particular note (because it involved perceptions of actual, not hypothetical, career impact), a 2011 DoD-wide survey found that one in five SMs who had accessed MH services in the previous year believed it had a negative effect on their careers.<sup>19</sup> Finally, two qualitative studies of sailors<sup>36</sup> and soldiers<sup>37</sup> found evidence convergent with the quantitative studies.

The 13 studies during or immediately following deployment produced lower proportions of perceived harm to careers.<sup>38-50</sup> Still, a sizable proportion (26.2%-42%) of randomly selected SMs assessed in theater in Iraq and Afghanistan (or soon after returning) screening positive for an MH disorder agreed that seeking treatment would harm their careers.

Finally, the five quantitative<sup>51-56</sup> and qualitative<sup>56-58</sup> studies of specialized populations produced similar results.



## DISCUSSION

### Summary of Evidence

This systematic review extracted results from 61 studies from 54 research reports. Studies addressed one of three research questions related to the actual or perceived career impact of military members receiving MH treatment.

#### Research question 1 (provider recommendations)

The research on this topic began (in 1996<sup>59</sup>, before the period reviewed here) by investigating types of referrals to MH treatment and providers' career-affecting recommendations. The largest non-deployment studies<sup>11,12</sup> showed that self-referred patients are less likely to face career-affecting provider recommendations (whereas a very small study<sup>13</sup> did not find differences). This has been interpreted to mean that intervention early in the trajectory of a disorder will prevent career harm from seeking MH treatment.<sup>9,11-13</sup> Although this hypothesis may be correct, the studies did not isolate early help-seeking from late help-seeking, merely self- vs. command-directed referrals. In both of the larger studies,<sup>11,12</sup> self-referred SMs were more likely to receive a V-code ("Other Conditions That May Be a Focus of Clinical Attention") diagnosis. Although this may indicate that self-referred members get help before their problems even reach diagnosable levels, it may be that they have low-level problems that never would have reached diagnosable levels. For instance, Lorber and colleagues' study,<sup>60</sup> using data from two U.S. Air Force-wide randomized surveys, found that SMs' symptoms (across internalizing- and externalizing-problem types) clustered into six classes—five ordinally arrayed classes ("very low" to "very high" internalizing- and externalizing-problems) and an additional "extremely high externalizing" class. Although it is possible that, left untreated, some problems worsen, it is highly likely that most of the self-referred SMs are from Lorber's "very low" and "low" problem classes (constituting 83% of the population) and that their V-code or no-diagnosis problems would have never worsened into the type of problems that result in career impacts. Likewise, the finding that soldiers who were hospitalized for psychiatric reasons were four times more likely to be discharged than those hospitalized for non-psychiatric reasons<sup>14</sup> (47% vs. 11%) may imply that MH problems need to be caught early or it may be that extremely severe psychiatric problems lead to career impacts, whereas very mild ones or non-psychiatric ones are much less likely to.

The results from studies for deployment are less cohesive. Rowan et al.'s<sup>17</sup> study of soldiers in Afghanistan replicated the home-duty station findings that self-referred SMs were least likely, and commander-directed members most likely, to receive career-affecting recommendations. Varga et al.<sup>18</sup> found that those who received pre-deployment MH treatment were less likely to receive career-affecting recommendations after seeking treatment during deployment, seemingly bolstering the "getting help early is career protective" hypothesis.

However, other studies are less sanguine about the career impact of seeking MH treatment during deployment. Christensen and Yaffe<sup>15</sup> found that deployed SMs were more likely to receive duty restrictions (traditionally classified as a career-impacting recommendation) than were non-deployed members, and this held for self-referred members; likewise, Conway et al.<sup>16</sup> found that MH treatment during deployment was associated with early separation for both medical and legal/involuntary reasons. Thus, one possibility is that deployment is a moderator that changes how help-seeking relates to career impacts, but the findings to date are not sufficiently consistent to declare that. Other possibilities include (1) SMs self-refer during deployment for different reasons than they do at their home duty stations, including purposefully desiring early discharge, and (2) the stress of combat deployment interacts with pre-existing vulnerabilities to produce different outcomes than under less stressful, non-deployed conditions.

#### Research question 2 (career impact of seeking, versus not seeking, treatment)

The heart of the interest in career-impact investigations is to test if MH treatment negatively affects military careers. Air Force<sup>12</sup> and Marines<sup>13</sup> studies by Ghahramanlou-Holloway et al. are the only studies to truly investigate this question, matching treatment seekers with demographic controls (at 1:4 ratio) and examining career impacts over 3.5-5.67 years. Although there was no impact on security clearances, those who sought MH treatment were more likely to be discharged than those who did not.<sup>12,13</sup> The well-powered Air Force study found that (1) treatment-seekers had an increased likelihood of medical board evaluations and involuntary discharge, and (2) seeking treatment and being subject to legal action (including command discipline) provided unique, additive predictivity of future discharge. However sobering, as we will discuss below, these findings do not establish that seeking MH treatment caused the increase in the probability of discharge.

#### Research question 3 (perceptions of the career impact of seeking treatment)

In DoD-wide studies, over one-third of all non-deployed SMs, and over half of those screening positive for psychiatric problems, believe that seeking MH treatment will harm their careers. This belief is less common, but still substantial, for deployed SMs in combat theaters (26%-42%). These findings are of particular concern because fears over career impact have been shown to dissuade treatment-seeking.<sup>35</sup>

Even more troubling to those promulgating the message that MH treatment will not harm careers is the finding in the 2011 DoD-wide ( $n > 34,000$ ) Health-Related Behaviors Survey that over one in five SMs who sought treatment believe that it had, in fact, negatively effect on their careers. Although this is a single question in a single study, the rigor of the

study's method and its size indicate that research fleshing out impacts on those still on active duty is needed.

### Limitations

As with any study, this systematic review has limitations. First, although we used multiple approaches to comprehensively locate the literature, our search may have omitted studies. This is especially likely with military research, where findings are often not in traditional journal publications or even indexed reports such as from RAND. Second, this nascent area has yet to produce a controlled study that has tested if, all other things being equal, seeking MH treatment itself causes career impacts. In the next section, we will discuss what such a study would entail.

### CONCLUSIONS

Human weapon systems differ from other weapon systems in that they are both autonomous and are charged with their own monitoring and maintenance. The U.S. DoD has expended considerable effort to destigmatize MH treatment-seeking<sup>6</sup> and to convince human weapon systems that they will not be harmed by seeking help.

Nevertheless, Kokx and van Kempen's<sup>61</sup> phrase neatly summarizes the 61 studies in this review: "A fact is a fact, but perception is reality." Over half of SMs screening positive for problems, and over one-third overall, believe that seeking help harms careers. Even more sobering is that over 20% of SMs who actually sought help believe it harmed their careers. Their perceptions are not wholly dissimilar from the facts amassed in this review. Seeking mental treatment is associated with a higher likelihood of having a medical board evaluation and being involuntarily discharged. This increased occurrence cannot be explained solely by behavioral problems in some members leading to both legal/command action and command-directed MH referrals because MH treatment and legal/command action each contribute unique predictive power to treatment-seekers' increased likelihood of discharge.

Yet, there are facts supporting MH treatment-seeking, namely, in the short run, most referrals are self-directed and do not result in command contact, let alone providers' career-affecting recommendations. For the vast majority of treatment-seekers, there is no risk.

So, what is the reality? Quite unsatisfyingly, the essential question of this research area—"does seeking MH treatment, compared with not seeking treatment, cause career harm?"—has not been addressed scientifically. The perception studies (research question 3) addresses opinions, not facts. The within-treatment-seekers studies (research question 1) cannot provide facts about seeking treatment because it only studies treatment-seekers.

Only the two studies addressing research question 2 can provide facts regarding the essential question. Because it would be unethical to randomly assign SMs with psychological problems to treatment versus treatment-prohibited

groups, the research designs have necessarily relied on observational, not experimental, methods. However, such correlational designs cannot establish causality because there are three possible ways to interpret their findings<sup>62</sup> that seeking MH treatment predicts a greater likelihood of discharge 3.5-5.67 years. First, MH treatment may negatively impact careers. This cannot be ruled out given Ghahramanlou-Holloway and colleagues' studies.<sup>12,13</sup> This possibility may apply more to some career fields than others, which needs further exploration. Second, the reverse causality—negative career impact could cause SMs to seek MH treatment—can be ruled out by these studies because seeking MH treatment preceded career impacts by years. Third, other variables may be causing both MH treatment-seeking and the increased risk for discharge, thus producing the correlation between the two. This is highly likely and has not been studied or controlled. Variables that increase the incidence of both could include (1) adverse childhood experiences; (2) presence of psychological problems (including both the often-screened depression, anxiety, and posttraumatic stress problems, as well as other problems that can interfere with military service [e.g., personality disorders, psychotic disorders, and bipolar disorder]); (3) a history of aggressive or behavioral problems; and (4) alcohol use and abuse.

### IMPLICATIONS FOR FUTURE RESEARCH

Four implications for future research are most salient. First, research question 1 (provider recommendations) has been thoroughly studied. However, the inference from these studies that early attention to psychological problems protects against negative career impacts must be directly tested. This question cannot be tested by examining only treatment-seekers but must be incorporated into a larger, pre-treatment longitudinal study. Second, relatedly, the essential question—"Does seeking MH treatment, compared with not seeking treatment, cause career harm?"—must be studied with research designs that can actually address the question. At a minimum, longitudinal studies before treatment initiation are required, with multiple data collection waves comprising symptom measurement, treatment and other services obtained, and a wide array of career impacts. We provide examples of research designs in Online Supplement 2. Third, fact-based investigations could learn from, and improve on, perception-based studies. Perception studies have often measured career impact with a single Likert-scaled question (e.g., agreement with "It would harm my career."). Although single items are the most practical operationalizations for large surveys, scales have superior psychometrics.<sup>63</sup> Brown and Bruce<sup>64</sup> created a similar construct, career worry, comprising nine Likert-scaled items created by the authors: receiving MH treatment would "hurt my ability to get promotion," "reduce my chances of being deployed," "negatively impact my security clearance," "negatively impact my job performance," "hurt my chances of getting back into the military," "negatively impact my relationships," "increase the chances of my losing my job,"

“put me under greater scrutiny,” and “negatively impact my ability to increase my pay.” Many, but not all, of the items in “career worry” would operationalize the “career impact” construct. Given the perception of one-in-five SMs who received recent MH treatment that it hurt their careers,<sup>22</sup> it is important to (1) conduct a qualitative study of SMs (from all services and with breadth regarding military career specialties and ranks) who have received MH treatment and ask them to generate ways in which they felt their careers were positively and negatively impacted; (2) cull the list of positive and negative impacts; and (3) conduct a content validity study comprising both SMs and experts (e.g., military psychologists, military MH researchers, commanders, and SMs serving on medical evaluation boards). Content validity, which is best incorporated into the earliest stages of measure creation, is a form of construct validity. Haynes et al.<sup>65</sup> define it as “the degree to which elements of an ... instrument are relevant to and representative of the targeted construct...” Relevance refers to how well the items match the construct’s components; representativeness refers to whether the final items are proportional to the components of the construct. Participants would rate the potential item pool on relevance and representativeness. Fourth, such a content validity study could provide an evidence-based career-impact operationalization/measure that could be used in both actual- and perceived-impact studies. That is, operationalization of career-impacting MH provider recommendations,<sup>11</sup> operationalizations of military services’ actions,<sup>12,13</sup> and single-item questions of anticipated career harm provide important, but incomplete, data on career impact.

In conclusion, the next generation of studies should (1) develop and use content-valid measures, and (2) directly test the field’s “essential question.” Suggestions for such studies can be found in Online Supplement 3.

### ACKNOWLEDGMENT

Thanks to Col. Jennifer Chow (who instigated this review) and Col. Larry Kroll for their insightful comments.

### SUPPLEMENTARY MATERIAL

Supplementary material is available at *Military Medicine* online.

### FUNDING

Contract from U.S. Air Force to Cherokee Insights, LLC; this activity funded under subcontract 29700-0005, Item 3.3.1.1 to New York University.

### CONFLICTS OF INTEREST STATEMENT

None declared.

### REFERENCES

- Garmone J: Service secretaries: people are most important part of DoD’s success. DoD News. Available at <https://www.defense.gov/Explore/News/Article/Article/1464137/service-secretaries-people-are-most-important-part-of-dods-success>; accessed May 13, 2021.
- Richard LS: The benefits aviation psychologists offer operational commanders: an analysis and discussion. 2001. Available at <https://apps.dtic.mil/sti/pdfs/ADA407279.pdf>; accessed May 13, 2021.
- Shelton HH: *Joint Vision 2020*. US Government Printing Office; 2000. Available at <https://www.hsdl.org/?view&did=446826>; accessed May 13, 2021.
- Farnsworth A: MH care in the military: an opportunity for progress. Available at <https://www.atlanticcouncil.org/blogs/new-atlanticist/mental-health-care-in-the-military-an-opportunity-for-progress>, accessed May 13, 2021.
- Acosta JD, Ashwood JS, Schell TL, Cerully JL: With small power, comes great responsibility: lessons learned from an evaluation of veteran and military mental health public awareness campaigns. *Community Ment Health J* 2019; 55(8): 1322–5.
- Acosta JD, Becker A, Cerully JL, et al: *Mental Health Stigma in the Military*. RAND Corporation; 2014.
- Cerully JL, Acosta JD, Sloan J: Mental health stigma and its effects on treatment-related outcomes: a narrative review. *Mil Med* 2018; 183(11–12): e427–37.
- Ursano RJ, Fullerton CS, Brown MC: *Stigma and Barriers to Care*. Uniformed Services University of the Health Sciences; 2011. Available at [https://www.cstsonline.org/assets/media/documents/CSTS\\_report\\_stigma\\_exec%20summary%202012.pdf](https://www.cstsonline.org/assets/media/documents/CSTS_report_stigma_exec%20summary%202012.pdf); accessed May 13, 2021.
- Psychological Health Center of Excellence: Barriers to care: career concerns infographic. 2020. Available at [https://www.pdhealth.mil/sites/default/files/images/docs/Barriers\\_to\\_Care\\_Career\\_Concerns\\_Updated\\_Infographic\\_2020\\_2\\_508.pdf](https://www.pdhealth.mil/sites/default/files/images/docs/Barriers_to_Care_Career_Concerns_Updated_Infographic_2020_2_508.pdf); accessed May 13, 2021.
- Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group: Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRISMA statement. *PLoS Med* 2009; 6(7): e1000097.
- Rowan AB, Campise RL: A multisite study of Air Force outpatient behavioral health treatment-seeking patterns and career impact. *Mil Med* 2006; 171(11): 1123–7.
- Ghahramanlou-Holloway M, Koss K, Rowan A, et al: Retrospective and prospective examination of outpatient MH utilization and military career impacts. *Stigma Health* 2019; 4(2): 143–51.
- Ghahramanlou-Holloway M, LaCroix J, Koss K, et al: Outpatient mental health treatment utilization and military career impact in the United States Marine Corps. *Int J Environ Res Public Health* 2018; 15(4): 828–16.
- Hoge C, Toboni HE, Messer S, Bell N, Amoroso PJ, Orman DT: The occupational burden of mental disorders in the US military: psychiatric hospitalizations, involuntary separations, and disability. *Am J Psychiatry* 2005; 162(3): 585–91.
- Christensen BN, Yaffe J: Factors affecting MH service utilization among deployed military personnel. *Mil Med* 2012; 177(3): 278–83.
- Conway TL, Schmied EA, Larson GE, et al: Treatment of mental or physical health problems in a combat zone: comparisons of postdeployment mental health and early separation from service. *J Traum Stress* 2016; 29(2): 149–57.
- Rowan AB, Varga CM, Clayton SP, Martin Zona DM: Career impacts and referral patterns: army mental health treatment in the combat theater. *Mil Med* 2014; 179(9): 973–8.
- Varga CM, Haibach MA, Rowan AB, Haibach JP: Psychiatric history, deployments, and potential impacts of mental health care in a combat theater. *Mil Med* 2017; 183(1–2): e77–82.
- Bray R, Hourani LL, Rae KL, et al: *2002 Department of Defense Survey of Health Related Behaviors Among Military Personnel*. Research Triangle Institute; 2003. Available at <https://apps.dtic.mil/sti/pdfs/ADA431566.pdf>; accessed May 13, 2021.
- Bray R, Hourani LL, et al: *2005 Department of Defense Survey of Health Related Behaviors Among Active Duty Military Personnel*. Research Triangle Institute; 2006. Available at <https://apps.dtic.mil/dtic/tr/fulltext/u2/a465678.pdf>; accessed May 13, 2021.
- Bray R, Pemberton MR, et al: *2008 Department of Defense Survey of Health Related Behaviors Among Active Duty Military Personnel*. Research Triangle Institute; 2009. Available at <https://prhome.defense.gov/Portals/52/Documents/RFM/Readiness/DDR/P/docs/2009.09%202008%20DoD%20Survey%20of%20Health%20>

- Related%20Behaviors%20Among%20Active%20Duty%20Military%20Personnel.pdf; accessed May 13, 2021.
22. Barlas FM, Higgins WB, Pflieger JC, et al: 2011 Department of Defense Health Related Behaviors Survey of Active Duty Military Personnel. ICF International; 2013. Available at <https://www.health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Health-Care-Program-Evaluation/Survey-of-Health-Related-Behaviors>; accessed May 13, 2021.
  23. Meadows SO, Engel CC, Collins RL, et al: 2015 *Department of Defense Health Related Behaviors Survey (HRBS)*. RAND; 2018. Available at <https://www.health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Health-Care-Program-Evaluation/Survey-of-Health-Related-Behaviors>; accessed May 13, 2021.
  24. Momen N, Strychacz CP, Viirre E: Perceived stigma and barriers to MH care in Marines attending the Combat Operational Stress Control program. *Mil Med* 2012; 177(10): 1143–8.
  25. Newell C, Whittam K, Uriell Z: 2010 *Behavioral Health Quick Poll*. Navy Personnel Research, Studies, and Technology, Bureau of Naval Personnel; 2010.
  26. Newell C, Whittam K, Uriell Z: 2011 *Behavioral Health Quick Poll*. Navy Personnel Research, Studies, and Technology, Bureau of Naval Personnel; 2011.
  27. Defense Health Agency. 2014 *Department of Defense Health Related Behaviors Survey of Active Duty Military Personnel*. Defense Health Agency; 2015. Available at <https://www.health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Health-Care-Program-Evaluation/Survey-of-Health-Related-Behaviors>; accessed May 13, 2021.
  28. Britt TW, Jennings KS, Cheung JH, Pury CLS, Zinzow HM: The role of different stigma perceptions in treatment seeking and dropout among active duty military personnel. *Psychiatr Rehabil J* 2015; 38(2): 142–9.
  29. Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL: Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *N Engl J Med* 2004; 351(1): 13–22.
  30. Kim PY, Thomas JL, Wilk JE, Castro CA: Stigma, barriers to care, and use of MH services among active duty and National Guard soldiers after combat. *Psychiatr Serv* 2010; 61(6): 582–8.
  31. Kim PY, Britt TW, Klocko RP, Riviere LA, Adler AB: Stigma, negative attitudes about treatment, and utilization of MH care among soldiers. *Mil Psychol* 2011; 23(1): 65–81.
  32. Quartana PJ, Wilk JE, Thomas JL, et al: Trends in mental health services utilization and stigma in US soldiers from 2002 to 2011. *Am J Public Health* 2014; 104(9): 1671–9.
  33. Warner CH, Appenzeller GN, Mullen K, Warner CM, Grieger T: Soldier attitudes toward MH screening and seeking care upon return from combat. *Mil Med* 2008; 173(6): 563–9.
  34. Office of the Surgeon United States Forces Korea and Eighth Army, Office of The Commanding General — Army Regional Health Command-Pacific, Office of the Army Surgeon General: Mental Health Advisory Team-Korea (8th Army). Available at <https://armymedicine.health.mil/Reports>; accessed May 13, 2021.
  35. Ho TE, Hesse CM, Osborn MM, Schneider KG: Mental Health and Help-Seeking in the US Military: Survey and Focus Group Findings. Defense Personnel and Security Research Center (PERSEREC) Technical Report-18-10. Seaside, CA, Office of People Analytics. Available at <https://apps.dtic.mil/sti/pdfs/AD1059321.pdf>; accessed May 13, 2021.
  36. Westphal RJ: Fleet leaders' attitudes about subordinates' use of MH services. *Mil Med* 2007; 172(11): 1138–43.
  37. Zinzow HM, Britt TW, Pury CL, Jennings K, Cheung JH, Raymond MA: Barriers and facilitators of mental health treatment-seeking in U.S. active duty soldiers with sexual assault histories. *J Trauma Stress* 2015; 28(4): 289–97.
  38. Gould M, Adler A, Zamorski M, et al: Do stigma and other perceived barriers to mental health care differ across Armed Forces? *J R Soc Med* 2010; 103(4): 148–56.
  39. Office of The Surgeon General - United States Army Medical Command: Operation Iraqi Freedom Mental Health Advisory Team (MHAT) report. 2003. Available at [https://www.globalsecurity.org/military/library/report/2004/mhat\\_report.pdf](https://www.globalsecurity.org/military/library/report/2004/mhat_report.pdf); accessed May 13, 2021. (Career impact information provided in MHAT-IV report<sup>42</sup>).
  40. Office of The Surgeon General - United States Army Medical Command: Mental Health Advisory Team III: Operation Iraqi Freedom Report 04–06. Washington, DC, Office of the Surgeon General, U.S. Army Medical Command, 2006. (Career impact information provided in MHAT-IV report<sup>42</sup>).
  41. Office of the Surgeon Multinational Force-Iraq, Office of The Surgeon General - United States Army Medical Command: Mental Health Advisory Team (MHAT) IV Operation Iraqi Freedom report 05–07. 2006. Available at <https://ntrl.ntis.gov/NTRL/dashboard/searchResults/titleDetail/PB2010103335.xhtml#>; accessed May 13, 2021.
  42. Office of the Surgeon Multinational Force-Iraq, Office of The Surgeon General - United States Army Medical Command: Mental Health Advisory Team (MHAT) IV Mental Health Advisory Team IV: Operation Enduring Freedom 2005 — Afghanistan. Available at <https://ntrl.ntis.gov/NTRL/dashboard/searchResults/titleDetail/PB2010103335.xhtml#>; accessed May 13, 2021.
  43. Office of the Surgeon Multi-National Force-Iraq, Office of the Command Surgeon, Office of The Surgeon General - United States Army Medical Command: Mental Health Advisory Team (MHAT) V Operation Iraqi Freedom report 06-08: Iraq. Available at <https://armymedicine.health.mil/Reports>; accessed May 13, 2021.
  44. Office of the Surgeon Multi-National Force-Iraq, Office of the Command Surgeon, Office of The Surgeon General - United States Army Medical Command: Mental Health Advisory Team (MHAT) V Operation Enduring Freedom 8: Afghanistan. 2008. Available at <https://armymedicine.health.mil/Reports>; accessed May 13, 2021.
  45. Office of the Surgeon Multi-National Corps-Iraq, Office of The Surgeon General - United States Army Medical Command: Mental Health Advisory Team (MHAT) VI: Operation Iraqi Freedom report 07-09. 2009. Available at <https://armymedicine.health.mil/Reports>; accessed May 13, 2021.
  46. Office of The Surgeon General - United States Army Medical Command, Office of the Command Surgeon - United States Central Command (USCENTCOM), Office of the Command Surgeon-US Forces Afghanistan (USFOR-A): Joint Mental Health Advisory Team 7 (J-MHAT 7) Operation Enduring Freedom 2010 Afghanistan. 2011. Available at <https://armymedicine.health.mil/Reports>; accessed May 13, 2021.
  47. Office of The Surgeon General - United States Army Medical Command, Office of the Command Surgeon - United States Central Command (USCENTCOM), Office of the Command Surgeon-US Forces Afghanistan (USFOR-A): Joint Mental Health Advisory Team 8 (J-MHAT 8) Operation Enduring Freedom 2012 Afghanistan. 2013. Available at <https://armymedicine.health.mil/Reports>; accessed May 13, 2021.
  48. Office of The Surgeon General - United States Army Medical Command, Office of the Command Surgeon Headquarters- United States Army Central Command (USCENTCOM), Office of the Command Surgeon-US Forces Afghanistan (USFOR-A): Mental Health Advisory Team 9 (MHAT 9) Operation Enduring Freedom (OEF) 2013 Afghanistan. 2013. Available at <https://armymedicine.health.mil/Reports>; accessed May 13, 2021.
  49. Steenkamp MM, Boasso AM, Nash WP, Litz BT: Does mental health stigma change across the deployment cycle? *Mil Med* 2014; 179(12): 1449–52.

50. Warner CH, Appenzeller GN, Grieger T, et al: Importance of anonymity to encourage honest reporting in MH screening after combat deployment. *Arch Gen Psychiatry* 2011; 68(10): 1065–71.
51. Chapman PL, Elnitsky C, Pitts B, Figley C, Thurman RM, Unwin B: Mental health, help seeking, and stigma and barriers to care among 3- and 12-month postdeployed and never deployed U.S. Army Combat Medics. *Mil Med* 2014; 179(8 Suppl): 55–62.
52. Elnitsky CA, Chapman PL, Thurman RM, Pitts BL, Figley C, Unwin B: Gender differences in combat medic mental health services utilization, barriers, and stigma. *Mil Med* 2013; 178(7): 775–84.
53. Hernandez SH, Bedrick EJ, Parshall MB: Stigma and barriers to accessing mental health services perceived by Air Force nursing personnel. *Mil Med* 2014; 179(11): 1354–60.
54. Holland KJ, Rabelo VC, Cortina LM: Collateral damage: military sexual trauma and help-seeking barriers. *Psychol Violence* 2016; 6(2): 253–61.
55. Reger GM, Durham TL, Tarantino KA, Luxton DD, Holloway KM, Lee JA: Deployed soldiers' reactions to exposure and medication treatments for PTSD. *Psychol Trauma* 2013; 5(4): 309–16.
56. Adler A, Jager-Hyman S, Brown GK, et al: A qualitative investigation of barriers to seeking treatment for suicidal thoughts and behaviors among army soldiers with a deployment history. *Arch Suicide Res* 2020; 24(2): 251–68.
57. Gibbs DA, Olmsted KLR, Brown JM, Clinton-Sherrod AM: Dynamics of stigma for alcohol and mental health treatment among army soldiers. *Mil Psychol* 2011; 23(1): 36–51.
58. Tanielian T, Woldetsadik MA, Jaycox LH, et al: Barriers to engaging service members in mental health care within the U.S. military health system. *Psychiatr Serv* 2016; 67(7): 718–27.
59. Rowan AB: Demographic, clinical, and military factors related to military MH referral patterns. *Mil Med* 1996; 161(6): 324–8.
60. Lorber MF, Xu S, Heyman RE, Slep AMS, Beauchaine TP: Patterns of psychological health problems and family maltreatment among United States Air Force members. *J Clin Psychol* 2018; 74(7): 1258–71.
61. Kokx A, van Kempen RA: Fact is a fact, but perception is reality: stakeholders' perceptions and urban policies in the process of urban restructuring. *Environ Plann C Gov Policy* 2010; 28(2): 335–48.
62. Holland PW: Statistics and causal inference. *J Am Stat Assoc* 1986; 81(396): 945–60.
63. Diamantopoulos A, Sarstedt M, Fuchs C, Wilczynski P, Kaiser S: Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *J Acad Mark Sci* 2012; 40(3): 434–49.
64. Brown NB, Bruce SE: Stigma, career worry, and mental illness symptomatology: factors influencing treatment-seeking for Operation Enduring Freedom and Operation Iraqi Freedom soldiers and veterans. *Psychol Trauma* 2016; 8(3): 276–83.
65. Haynes SN, Richard D, Kubany ES: Content validity in psychological assessment: a functional approach to concepts and methods. *Psychol Assess* 1995; 7(3): 238–47.
66. Chu KM, Garcia SMS, Koka H, Wynn GH, Kao TC: Mental health care utilization and stigma in the military: comparison of Asian Americans to other racial groups. *Ethn Health* 2021; 26(2): 235–50.
67. Britt TW, Jennings KS, Cheung JH, et al: Determinants of mental health treatment seeking among soldiers who recognize their problem: implications for high-risk occupations. *Work&Stress* 2016; 30(4): 318–36.
68. Olmsted KLR, Brown JM, Vandermaas-Peeler JR, Tueller SJ, Johnson RE, Gibbs DA: Mental health and substance abuse treatment stigma among soldiers. *Military Psychol* 2011; 23(1): 52–64.
69. VanSickle M, Werbel A, Perera K, Pak K, DeYoung K, Ghahramanlou-Holloway M: Perceived barriers to seeking mental health care among United States Marine Corps non-commissioned officers serving as gatekeepers for suicide prevention. *Psychol Assess* 2016; 28(8): 1020–25.
70. Baker DG, Nash WP, Litz BT, et al: Predictors of risk and resilience for Posttraumatic Stress Disorder among ground combat Marines: Methods of the Marine Resiliency Study. *Prev Chronic Dis* 2012; 9: 110134.