Longitudinal determinants of mental health treatment-seeking by US soldiers

Amy B. Adler, Thomas W. Britt, Lyndon A. Riviere, Paul Y. Kim and Jeffrey L. Thomas

Background
Studies with members of the armed forces have found a gap between reports of mental health symptoms and treatment-seeking.1 yet studies have identified that members of the armed forces are reluctant to seek mental healthcare.2 Two reasons for the gap between mental health problems and treatment-seeking may be concern about stigma and practical organisational barriers associated with mental healthcare.2–4 For example, several studies have demonstrated that individuals reporting more mental health problems also report greater concerns about stigma.2,3,5 Although there is a rationale for making a link between stigma and treatment-seeking,6 few studies have assessed whether attitudes about stigma and barriers to care actually drive treatment-seeking. For example, in the US National Comorbidity Survey,7 the most commonly endorsed reason for not seeking treatment was ‘Wanted to handle problem on own’, or a preference for self-management and positive attitudes about treatment. For the subset of 160 soldiers reporting a mental health problem at time 1, and controlling for mental health symptom severity, self-management inversely predicted treatment-seeking; positive attitudes were positively related.

Aims
To assess the impact of attitudes on treatment-seeking behaviours in soldiers returning from a combat deployment.

Method
A sample of 529 US soldiers were surveyed 4 months (time 1) and 12 months (time 2) post-deployment. Mental health symptoms and treatment-seeking attitudes were assessed at time 1; reported mental healthcare visits were assessed at time 2.

Results
Factor analysis of the total time 1 sample revealed four attitude factors: professional concerns, practical barriers, preference for self-management and positive attitudes about treatment. For the subset of 160 soldiers reporting a mental health problem at time 1, and controlling for mental health symptom severity, self-management inversely predicted treatment-seeking; positive attitudes were positively related.

Conclusions
Results demonstrate the importance of broadening the conceptualisation of barriers and facilitators of mental healthcare beyond stigma. Techniques and delivery models emphasising self-care may help increase soldiers’ interest in using mental health services.

Declaration of interest
None.

Copyright and usage
© The Royal College of Psychiatrists 2015.

Combat deployments often lead to an increase in mental health problems that are uniquely multifaceted and specific to a military population,1 yet studies have identified that members of the armed forces are reluctant to seek mental healthcare.2 Two reasons for the gap between mental health problems and treatment-seeking may be concern about stigma and practical organisational barriers associated with mental healthcare.2–4 For example, several studies have demonstrated that individuals reporting more mental health problems also report greater concerns about stigma.2,3,5 Although there is a rationale for making a link between stigma and treatment-seeking,6 few studies have assessed whether attitudes about stigma and barriers to care actually drive treatment-seeking. For example, in the US National Comorbidity Survey,7 the most commonly endorsed reason for not seeking treatment was ‘Wanted to handle problem on own’, or a preference for self-reliance or self-management. This preference has been found in other studies as well. In a study of members of the Canadian armed forces, a preference for self-management was cited as one of the most common barriers to treatment and was the third most commonly endorsed suggestion for improving access to mental healthcare.8 Similarly, a study of soldiers withdrawing from treatment for post-traumatic stress disorder (PTSD) found that the most frequently cited reason was a preference for soldiers to take care of problems on their own.9 In a cross-sectional study, Kim et al also found that a factor combining negative attitudes towards mental healthcare and a preference for handling problems oneself correlated with treatment-seeking, but a factor reflecting concerns about stigma did not.10 As seen in Table 1, the longitudinal sample had a greater percentage of junior enlisted soldiers than the full time 1 sample and, accordingly, also had soldiers who were younger. Therefore, the primary analyses controlled for rank and age. The analyses also
controlled for gender because previous studies have found that women are more likely to seek treatment than men. Data on ethnicity were not collected. Also reported in Table 1, the matched sample had slightly lower PTSD symptoms than the complete time 1 sample, but there was no significant difference on any of the four factors from the determinants of treatment-seeking items. Symptoms of PTSD were entered as a control variable in the primary analyses.

The variables we examined were a subset of those included in a larger programme assessing the effects of combat on the psychological and physical health of service members (overall Land Combat Study methods are published elsewhere). Perception of a mental health problem at time 1 was assessed with an item asking whether the individual was currently experiencing a stress, emotional, alcohol or family problem. Response options were ‘no’, ‘mild’, ‘moderate’ or ‘severe’ and the variable was recoded into participants either not reporting a problem or reporting a problem of any severity. Symptoms of PTSD were measured using the 17-item PTSD Checklist. The scale was scored using 50 and the diagnostic algorithm for each cluster as the cut-off. Depression symptoms were measured using the nine-item Patient Health Questionnaire for depression, scored with four response options (‘not at all’ to ‘nearly every day’). The cut-off score was determined by endorsing at least five of nine symptoms, including ‘feeling down, depressed or hopeless’ or ‘having little interest in doing things’, at least more than half the days in the past month and endorsing that these symptoms made it at least ‘very’ difficult to ‘do their work, take care of things at home, or get along with other people’. Anxiety was measured using the seven-item Generalized Anxiety Disorder scale, scored with four response options (‘not at all’ to ‘nearly every day’); the items were summed and cut-off determined by a cumulative score of 10 or greater and endorsing that symptoms made it at least ‘very’ difficult to ‘do their work, take care of things at home, or get along with other people’. Details of cut-off score determination for the depression and anxiety measures have been previously reported.

Treatment-seeking attitudes were measured at time 1 and time 2. There were 26 items, including 11 items from Hoge et al., 6 additional items from Kim et al., and 9 items developed for this study to refine the negative attitudes factor reported by Kim et al. Items were scored with five response options (1 = strongly disagree, to 5 = strongly agree). Treatment-seeking was assessed at time 2 through the question, ‘Approximately how many total visits with a mental health professional have you had in the past year?’ with responses ranging from 0 to 12. For this study treatment-seeking was coded as the participant reporting no visit (no) or one or more visits (yes). All analyses were carried out in SPSS version 22 on Windows.

Results

Table 1 provides a comparison of key demographic data and study variables for the sample assessed at both time 1 and time 2 with the overall time 1 sample.

Factor analysis of time 1 data

A factor analysis, using the complete time 1 sample data and conducted with the 26 treatment-seeking attitude items, suggested the existence of four factors (scree plot inspection; eigenvalues > 1). Following a varimax rotation with a four-factor solution, three items were removed because of double loading. The remaining items and their loadings on the four factors are listed in Table 2. The four factors were concerns over professional impact, which reflected traditional perceived stigma items (Cronbach’s α = 0.96); self-management, reflecting a preference for handling mental health problems oneself (α = 0.92); practical organisational barriers (α = 0.90); and positive attitudes toward treatment (α = 0.90). One item was removed because it was not conceptually consistent with the factor, specifically, the item ‘I do not trust mental health professionals’ was not included in the factor labelled ‘self-management’ because it addressed negative attitudes toward providers rather than a preference for self-management. This item was the lowest loading item on the factor and also loaded above 0.30 on two additional factors.

Predictors of seeking treatment at time 2

In order to examine the factors at time 1 as predictors of seeking treatment at time 2, we conducted a series of logistic regressions. These regressions were conducted only for the 160 soldiers in the matched sample who at time 1 had screened positive for PTSD, depression or anxiety, or who had reported that they were currently experiencing a stress, emotional, alcohol or family problem. In order to avoid overadjustment in the logistic regression, we first ran a model that contained the demographic covariates of rank, age and gender at time 1, as well as PTSD symptoms at time 1, as predictors of treatment-seeking at time 2. We included symptoms of PTSD, the most common problem reported, to control for degree of mental health problems in examining the impact of the factors on subsequent reported mental healthcare use. The results of this model are presented in the first column of Table 3, and indicate that the demographic variables were not predictive of treatment-seeking, whereas higher levels of PTSD symptoms at time 1 were associated with a higher likelihood of having mental health treatment at time 2 (Wald χ² = 11.52, d.f. = 1, P < 0.01, odds ratio 1.05).

In model 2, each treatment-seeking factor at time 1 was entered individually as a predictor of treatment-seeking at time 2, controlling for the demographic variables and PTSD symptoms at time 1. The results of these logistic regressions are presented in the second column of Table 3, and reveal that when considered...
Adler et al

individually, self-management was associated with a decreased likelihood of seeking treatment at time 2 ($\chi^2 = 3.89$, d.f. = 1, $P < 0.05$, OR = 0.64) and positive attitudes were associated with an increased likelihood of seeking treatment ($\chi^2 = 13.00$, d.f. = 1, $P < 0.01$, OR = 1.69). In contrast, professional stigma and practical operational barriers did not predict treatment-seeking at time 2 when entered individually.

Given the finding that self-management and positive attitudes each individually predicted treatment-seeking at time 2, a third model was evaluated in which both self-management and positive attitudes were entered together as predictors of treatment-seeking at time 2 while controlling for the demographic covariates and PTSD symptoms at time 1. As seen in the third column of Table 3, self-management continued to be associated with a reduced likelihood of seeking mental health treatment at time 2 ($\chi^2 = 11.02$, d.f. = 1, $P < 0.01$, OR = 0.38) and positive attitudes continued to be associated with an increased likelihood of treatment-seeking ($\chi^2 = 11.52$, d.f. = 1, $P < 0.01$, OR = 2.34). These results indicate that self-management and positive attitudes each independently predicted treatment-seeking at time 2.

### Discussion

In a longitudinal study of soldiers following deployment, two factors reflecting attitudes toward mental healthcare significantly

### Table 2  Factor loadings for treatment-seeking determinants items at time 1 (n = 2556)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>It would be too embarrassingb</td>
<td>0.76</td>
<td>0.30</td>
<td>0.25</td>
<td>0.11</td>
</tr>
<tr>
<td>It would harm my careerb</td>
<td>0.83</td>
<td>0.25</td>
<td>0.22</td>
<td>0.11</td>
</tr>
<tr>
<td>Members of my unit might have less confidence in meb</td>
<td>0.86</td>
<td>0.22</td>
<td>0.18</td>
<td>0.14</td>
</tr>
<tr>
<td>My unit membership might treat me differentlyb</td>
<td>0.83</td>
<td>0.19</td>
<td>0.22</td>
<td>0.12</td>
</tr>
<tr>
<td>My leaders would blame me for the problemb</td>
<td>0.81</td>
<td>0.19</td>
<td>0.30</td>
<td>0.08</td>
</tr>
<tr>
<td>I would be seen as weakb</td>
<td>0.87</td>
<td>0.25</td>
<td>0.17</td>
<td>0.15</td>
</tr>
<tr>
<td>It could hurt my chances of deploying</td>
<td>0.61</td>
<td>0.25</td>
<td>0.36</td>
<td>0.05</td>
</tr>
<tr>
<td>It might affect my security clearanceb</td>
<td>0.73</td>
<td>0.25</td>
<td>0.27</td>
<td>0.11</td>
</tr>
<tr>
<td>I do not trust mental health professionalsb</td>
<td>0.33</td>
<td>0.56</td>
<td>0.35</td>
<td>0.05</td>
</tr>
<tr>
<td>Getting mental health treatment should be a last resortb</td>
<td>0.30</td>
<td>0.69</td>
<td>0.24</td>
<td>0.04</td>
</tr>
<tr>
<td>There is sufficient information available for people to be able to help themselves</td>
<td>0.22</td>
<td>0.64</td>
<td>0.25</td>
<td>0.20</td>
</tr>
<tr>
<td>I know how to help myself</td>
<td>0.13</td>
<td>0.77</td>
<td>0.05</td>
<td>0.29</td>
</tr>
<tr>
<td>Strong people can resolve psychological problems by themselves</td>
<td>0.21</td>
<td>0.79</td>
<td>0.20</td>
<td>0.09</td>
</tr>
<tr>
<td>I would prefer to manage problems on my own</td>
<td>0.20</td>
<td>0.82</td>
<td>0.05</td>
<td>0.27</td>
</tr>
<tr>
<td>I would rather get information on how to deal with the problem on my own</td>
<td>0.22</td>
<td>0.74</td>
<td>0.11</td>
<td>0.26</td>
</tr>
<tr>
<td>I do not know where to get helpb</td>
<td>0.17</td>
<td>0.15</td>
<td>0.85</td>
<td>0.00</td>
</tr>
<tr>
<td>I do not have adequate transportationb</td>
<td>0.19</td>
<td>0.15</td>
<td>0.77</td>
<td>−0.01</td>
</tr>
<tr>
<td>It is difficult to schedule an appointmentb</td>
<td>0.29</td>
<td>0.11</td>
<td>0.74</td>
<td>0.13</td>
</tr>
<tr>
<td>Mental health services are not availableb</td>
<td>0.13</td>
<td>0.16</td>
<td>0.87</td>
<td>−0.01</td>
</tr>
<tr>
<td>My workload does not allow time for treatment</td>
<td>0.39</td>
<td>0.19</td>
<td>0.65</td>
<td>0.16</td>
</tr>
<tr>
<td>It takes courage to get treatment for a mental health problem</td>
<td>0.20</td>
<td>0.29</td>
<td>0.07</td>
<td>0.84</td>
</tr>
<tr>
<td>Mental health counselling can be helpful for those who need it</td>
<td>0.23</td>
<td>0.31</td>
<td>0.07</td>
<td>0.76</td>
</tr>
</tbody>
</table>

a. Factor 1, professional concerns; factor 2, self-management; factor 3, practical barriers; factor 4, positive attitudes. Factor loadings > 0.40 are in bold.
b. Items are from Hoge et al.2
c. Items are from Kim et al.11

### Table 3  Logistic regression analyses of demographic variables, post-traumatic stress symptoms and treatment-seeking determinants at time 1 as predictors of treatment-seeking at time 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
</tr>
<tr>
<td>Age</td>
<td>0.45 (0.08–2.53)</td>
</tr>
<tr>
<td>Gender</td>
<td>1.69 (0.39–7.44)</td>
</tr>
<tr>
<td>Rank</td>
<td>0.16 (0.03–0.82)*</td>
</tr>
<tr>
<td>PTSD symptoms</td>
<td>1.03 (1.02–1.08)</td>
</tr>
<tr>
<td>Professional concerns</td>
<td>0.96 (0.65–1.43)</td>
</tr>
<tr>
<td>Practical barriers</td>
<td>1.09 (0.70–1.71)</td>
</tr>
<tr>
<td>Self-management</td>
<td>0.64 (0.42–1.00)*</td>
</tr>
<tr>
<td>Positive attitudes</td>
<td>1.69 (1.10–2.57)**</td>
</tr>
</tbody>
</table>

OR, odds ratio; PTSD, post-traumatic stress disorder.

a. Odds ratios in model 2 represent each variable entered individually, adjusted for age, gender, rank and PTSD symptoms at time 1.
b. Odds ratios in model 3 represent values when self-management and positive attitudes were entered simultaneously, adjusted for gender, rank and PTSD symptoms at time 1.
c. Age assessed using five dummy-coded variables; value represents contrast with highest OR.
d. Female gender coded as 1.
e. Assessed using three dummy-coded variables; value represents contrast with highest OR.
f. *P < 0.05, **P < 0.01.
predicted treatment-seeking. As predicted, self-management – or the preference for managing problems on one’s own – was correlated with less treatment-seeking over time. In contrast, positive attitudes, or the belief that counselling is helpful and takes courage, were associated with an increased likelihood of treatment-seeking over time. These results underscore the point that understanding the decision to seek mental healthcare in the military is not necessarily served by an exclusive focus on traditional measures of stigma and practical organisational barriers to care. Instead, the gap between mental health problems and using mental healthcare appears to arise from conflict between perceiving oneself as capable and competent (i.e. able to handle problems on one’s own) and approaching an expert for mental health treatment. This gap appears to be widened by a lack of confidence in the usefulness of such treatment. Although stigma is certainly reported by many soldiers, it is not stigma or practical barriers that appear to impede their accessing mental healthcare. Furthermore, positive attitudes toward the efficacy of treatment are also an important factor in determining treatment-seeking, suggesting the importance of not only portraying individuals seeking treatment as courageous and responsible, but also generating confidence in mental health treatment efficacy.

Limitations

There are some limitations to the study that need to be addressed. First, the list of treatment-seeking attitudes was not comprehensive. Although this list builds on the work of previous researchers,

the preference for managing problems on one’s own – was correlated with less treatment-seeking over time. In contrast, positive attitudes, or the belief that counseling is helpful and takes courage, were associated with an increased likelihood of treatment-seeking over time. These results underscore the point that understanding the decision to seek mental healthcare in the military is not necessarily served by an exclusive focus on traditional measures of stigma and practical organisational barriers to care. Instead, the gap between mental health problems and using mental healthcare appears to arise from conflict between perceiving oneself as capable and competent (i.e. able to handle problems on one’s own) and approaching an expert for mental health treatment. This gap appears to be widened by a lack of confidence in the usefulness of such treatment. Although stigma is certainly reported by many soldiers, it is not stigma or practical barriers that appear to impede their accessing mental healthcare. Furthermore, positive attitudes toward the efficacy of treatment are also an important factor in determining treatment-seeking, suggesting the importance of not only portraying individuals seeking treatment as courageous and responsible, but also generating confidence in mental health treatment efficacy.

Future research

Future research should consider the degree to which the focus on self-management is specific to the occupational culture of the military or other high-risk occupational groups. There may be self-selection such that individuals who are highly motivated to keep themselves physically and psychologically fit may be more likely to join the military and those who do join may be motivated to sustain this fitness so that they can continue to serve. Although the results of the US National Comorbidity Survey suggest that this preference for self-management extends beyond the military, a more direct test should be conducted. In addition, it is not clear how these results apply to nations other than the USA, given that some previous work has documented national differences, whereas other studies have underscored similarities across armed forces. Although significant efforts in psychoeducation, resilience training and peer support have been made in the military and in other high-risk occupational settings, the gap in help-seeking for individuals with mental health problems remains a challenge. One of the most important implications of our findings is that the platform for delivering traditional mental health care is not necessarily served by an exclusive focus on self-management. Future research should systematically examine what is meant by self-management, including qualitative methodology. It may be that the underlying principle of self-management reflects a preference for maintaining a sense of self-efficacy in addressing salient life problems. Perhaps individuals believe that seeking help from others would undermine this sense of self-efficacy. Alternatively, perhaps individuals are motivated by self-management because seeking professional help would not be worth the physical or mental effort. Such a perspective could reflect a conservation of resources model. A third possibility is that self-management reflects a preference for reaching out to close others, peers and family, as suggested by Jones et al. In order to understand the self-management preference, it would be useful to examine the extent to which the same preference drives decisions to seek out care for physical health problems, as well as help with problems more generally.

Study implications

Results from our study may indicate that instead of a system in which providers see individuals who are willing to be identified as patients, a system of proactive mental health training should be developed. Such a system could involve direct outreach, coaching and packaging of information as self-development material in order to effectively leverage the preference for self-management. Embedding mental healthcare at the unit level provides one such example. Furthermore, the results of studies showing that mental healthcare is effective in reducing symptoms and improving functioning at home and work should be communicated through training and public health announcements. Examples of choosing treatment as a reflection of courage can also support positive attitudes toward treatment-seeking. Taken together, such information could leverage the influence of attitudes to support the health and adjustment of individuals with mental health problems.
Adler et al

350

Acknowledgement
Thanks to the Land Combat Study team for their work in collecting, processing and managing the data.

Funding
Funding was received from the US Army Military Operational Medicine Research Program. The views expressed in this article are those of the authors and do not necessarily represent the official policy or position of the US Army Medical Command or the US Army. The study was approved by the Institutional Review Board at the Walter Reed Army Institute of Research.

References
Longitudinal determinants of mental health treatment-seeking by US soldiers
Amy B. Adler, Thomas W. Britt, Lyndon A. Riviere, Paul Y. Kim and Jeffrey L. Thomas
Access the most recent version at DOI: 10.1192/bjp.bp.114.146506

References
This article cites 33 articles, 2 of which you can access for free at:
http://bjp.rcpsych.org/content/207/4/346#BIBL

Reprints/permissions
To obtain reprints or permission to reproduce material from this paper, please
write to permissions@rcpsych.ac.uk

You can respond to this article at
/letters/submit/bjprcpsych;207/4/346

Downloaded from
http://bjp.rcpsych.org/ on June 16, 2017
Published by The Royal College of Psychiatrists