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Unit training to increase support for military personnel with mental health problems

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ABSTRACT

The present study examined the effectiveness of training designed to increase support toward military personnel with mental health problems. Soldiers from two Battalions ($N = 349$) were randomly assigned by squad to receive the training ($n = 179$) or to a survey-only control group ($n = 170$). Soldiers completed survey assessments at baseline and three months later. Soldiers also completed an implicit association test assessing attitudes toward mental health treatment at the three-month follow-up. Results revealed that soldiers in the training condition reported an increase in supportive behaviours toward soldiers with mental health problems three months following the training, whereas there was no increase in soldiers assigned to the control group. Soldiers in the training condition were also marginally more likely to increase their own treatment seeking in the three months following the training. Discussion focuses on the importance of unit member support for military personnel with mental health problems and the implications for employees in other occupations characterised by the expectation for resilience.

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Introduction

Employees in high-risk jobs (e.g. military personnel, police officers, firefighters, first responders) often experience traumatic events that put them at risk for developing mental health problems (Britt & McFadden, 2012). Unfortunately, many employees in these jobs fail to get timely mental health treatment for these difficulties, often leading to worsening symptoms for the employee and his or her family (Boulos & Zamorski, 2015; Vashdi, Bamberger, & Bacharach, 2012). One reason offered for low treatment seeking in these occupations is an organisational culture that emphasises the importance of individual resilience in employees and handling mental health problems on their own (Britt & McFadden, 2012).

Employees in high-risk occupations are typically embedded in units that are highly cohesive, resulting in an increased responsivity to fellow unit member evaluations and feedback (Bacharach & Bamberger, 2007). Therefore, increasing fellow unit member support for individuals with mental health problems should have a positive effect on

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those employees in need of treatment. In the present research, we describe the development and evaluation of training to increase supportive behaviours toward fellow soldiers experiencing mental health problems.

The incidence of mental health problems among soldiers in the military has been extensively documented, along with the fact that the majority of soldiers with problems typically do not receive treatment. Thomas et al. (2010) found rates of Post-Traumatic Stress Disorder or depression as high as 33% among Active Component and National Guard Soldiers. In terms of military personnel getting treatment for these problems, Kim, Thomas, Wilk, Castro, and Hoge (2010) found the percentages of National Guard soldiers who reported seeking treatment were between 13% and 27%. For the most part, similar rates of treatment seeking have been found across cultures beyond the US, with data from the Canadian Community Health Survey-Canadian Forces Supplement reporting that 14.5% of veteran and active members of the Canadian Forces experienced a problem and 42% of those with a problem sought treatment (Fikretoglu, Brunet, Schmitz, Guay, & Pedlar, 2006; Fikretoglu, Guay, Pedlar, & Brunet, 2008). In a sample of members of the UK armed forces, of those identified to be at risk for psychiatric problems, 23% reported seeking help, though these estimates varied based on diagnosis (Iversen et al., 2010).

Among employees in high-risk occupations, much of the research on treatment seeking, both in the US and abroad, has focused on stigma, practical constraints, and attitudes toward treatment as primary barriers to treatment (Britt et al., 2016; Hoge et al., 2004; Iversen et al., 2011; Kim, Britt, Klocko, Riviere, & Adler, 2011). Although concerns about stigma within the military have been consistently high and reported across a number of Armed Forces from several nations (e.g. Gould et al., 2010), Sharp et al. (2015) found evidence of inconsistent relationships between stigma and help seeking and proposed that important others facilitating treatment may be more influential than anticipated negative judgement.

Britt and McFadden (2012) also argued that leaders and fellow unit members play a critical role in promoting psychological health and facilitating treatment seeking. Aligning with the Theory of Planned Behavior (TPB; Ajzen, 1985), one key determinant of intending to perform a given behaviour is the subjective norms of important others around the individual. Leaders and fellow unit members represent important sources of influence which help to shape the subjective norms for military personnel and personnel in other high-risk occupations (e.g. firefighters, police officers, first responders). In fact, higher unit support or cohesion and more positive leadership are related to lower levels of treatment-related stigma and to fewer practical barriers to getting help (Britt, Wright, & Moore, 2012; Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009; Wright et al., 2009).

Supportive ties among military unit members is a primary predictor of positive adaptation following exposure to the traumatic events that can occur during combat (Solomon, Mikulincer, & Hobfoll, 1986; Solomon, Weisenberg, Schwarzwald, & Mikulincer, 1987), as well as aiding in a positive transition following deployment (Fink, Gallaway, & Millikan, 2013). While studies have considered the influence of general forms of support on soldier adaptation (Fink et al., 2013), fewer studies have attended to how unit support may relate specifically to treatment-seeking behaviours. Recently, Harpaz-Roten, Rosenheck, Pietrzak, and Southwick (2014) found that support from one's unit, leader, and the military

in general was associated with a higher likelihood of initiating treatment among a sample of veterans in an initial visit at a Veterans Affairs clinic.

Thus, there is evidence that fostering unit support may be a promising method to promote soldiers' psychological health, and potentially treatment seeking. We argue that support from one's unit needs to be clearly directed toward encouraging treatment when needed (rather than support in general), as earlier work pointed out the complexities that supportive individuals can either serve as a gateway or a substitute for professional treatment (Gottlieb, 1976). These complexities highlight the need to take a more fine-grained approach to considering how unit members may be trained to offer support for seeking professional treatment when needed.

Within the context of unit members providing support to fellow service members with mental health problems, supportive behaviours include continuing to provide emotional support to service members receiving treatment (while not trying to serve as a counsellor oneself), helping service members access treatment, providing information to fellow soldiers regarding treatment, and helping fellow service members know when it is necessary to receive help. The primary purpose of the unit training developed for the present study was to increase targeted supportive behaviours toward fellow service members experiencing mental health problems but not yet in treatment. Thus, we focused on supportive behaviours to help a soldier know when professional treatment is needed and to get them into treatment.

The training developed for the present study was consistent with Mental Health First Aid (MHFA) training developed by Kitchener and Jorm (2002). MHFA training covers how to help others who are experiencing a mental health crisis and has five major steps: assessing risk of self-harm or suicide, listening without judgment, providing reassurance and information to someone with a problem, encouraging getting professional help when necessary, and encouraging the appropriate use of self-help strategies (Kitchener & Jorm, 2002, p. 2). Kitchener and Jorm (2004) examined the effectiveness of MHFA in an occupational setting using a wait-list control design but did not tailor the training to the occupational setting of the employees. The employees demonstrated more accurate beliefs about effective treatment for two disorders, decreased social distance toward individuals with the disorders, and increased their own mental health following the training.

In the present study, we developed unit training with comparable goals of MHFA focusing on the unique occupational context and mental health concerns facing military personnel and training for unit support (e.g. Pietrzak et al., 2010). The training addressed many of the barriers that have been consistently found in the literature, such as the strong stigma against unit members with mental health problems and the importance of the unit being supportive for soldiers needing help (Britt & McFadden, 2012).

To contextualise the training, much of the content was based on prior qualitative and quantitative studies highlighting the main predictors of treatment seeking among military personnel (Britt et al., 2016; Hoge et al., 2004; Kim et al., 2011; Zinzow et al., 2013), as well as recommendations from the broader literature on reducing stigma and improving support of individuals with mental health problems, including the use of video testimonials (Corrigan et al., 2002; Pinfold, Thornicroft, Huxley, & Farmer, 2005). These steps align with the training literature, which highlights the need for an analysis of the needs of an organisation prior to a training intervention (e.g. Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012). Our training was based on qualitative research on the important

factors involved in whether military personnel get needed mental health treatment. Zinzow et al. (2013) conducted focus groups with military personnel of different rank as well as interviews with personnel who had sought mental health treatment on active duty. The authors identified the importance of support from fellow unit members and leaders in facilitating treatment seeking, as well as witnessing fellow personnel benefiting from mental health treatment.

In addition, we followed guidelines from the broader training literature to ensure our method of training delivery and evaluation aligned with recommendations. For the method of training delivery, we examined research on how to provide information to improve knowledge and attitudes, such as using practice activities during training (Saks & Belcourt, 2006). As a particular strategy for increasing service member confidence regarding providing support to unit members with mental health problems, we used role-playing to allow soldiers to practise skills associated with supporting soldiers with mental health problems. We also used empirically supported instructional tools, such as discussions that promoted critical thinking in terms of costs and benefits of not seeking treatment, as well as recognising ways to counter barriers to treatment. Given the importance of leaders in the mental health of employees (Dimoff, Kelloway, & Burnstein, 2016), we modified the training for leaders of the units, highlighting how leaders set the climate within the unit for supporting soldiers who need treatment.

In evaluating the effectiveness of training, we followed guidelines in the training literature. Kirkpatrick (1959/1994) provided one of the most widely used frameworks for evaluating training. The framework recommends measuring participant reactions to the training, learning outcomes, behavioural outcomes (post-training, on the job), and tangible outcomes which indicate that the training has benefited the organisation. In following this framework, we assessed evaluations of the training from soldiers. In evaluating learning, researchers have noted learning outcomes can be cognitive, skills-based, or affective in nature (Kraiger, Ford, & Salas, 1993). In accordance with Kraiger et al.'s (1993) recommendations, we assessed declarative knowledge about mental health treatment with a recall test and targeted attitudes with self-report measures. While hands-on testing or an observational assessment may be preferred for assessing acquired skills in supporting a fellow unit member, these behaviours may be difficult to be observed naturally. Therefore, we used the role-playing scenarios to encourage the use of these skills but did not directly test them as a learning outcome.

As a measure of skill use and behaviour outcomes after the training (in the framework of Kirkpatrick's model), we used self-report indicators of specific supportive behaviours in which soldiers engaged following the training. We also assessed whether soldiers participating in the training had more positive implicit attitudes toward mental health treatment (Goguen et al., 2016) as assessed through the Implicit Association Test (IAT), which is a reaction time-based measure of the extent to which individuals associate a given concept with the adjectives of "Good" versus "Bad" (Greenwald, Nosek, & Banaji, 2003). The addition of the IAT also meets a call in the training literature to incorporate assessments of implicit attitudes that may be more indicative of true attitude change (e.g. Ford, Kraiger, & Merritt, 2010).

Finally, we recognised that in focusing the training on supporting fellow unit members with mental health problems, soldiers may also be more likely to seek treatment themselves when experiencing mental health problems. Siegel, Lienemann, and Tan (2015)

demonstrated that individuals showing symptoms of depression who heard a persuasive message regarding the importance of a close other getting treatment for depression expressed more positive attitudes toward treatment and greater intentions to get treatment than those depressed individuals who received a direct message to get treatment. Therefore, we hypothesised that the unit training would not only result in increased supportive behaviours to other unit members but that soldiers would also be more likely to report getting mental health treatment themselves.

In the present study, soldiers from two Battalions were randomly assigned to either participate in the training to support soldiers with mental health problems or to a survey-only control group. Soldiers were assessed before the training (at baseline) and then three months following the training. Our hypotheses were as follows:

Hypothesis 1: Those soldiers receiving the unit training, in comparison to those in the control group, would report greater confidence in helping soldiers with mental health problems, as well as greater knowledge of mental health issues, at the three-month follow-up.

Hypothesis 2: Those soldiers receiving the unit training, in comparison to those in the control group, would report performing more supportive behaviours at the three-month follow-up.

Hypothesis 3: Those soldiers receiving the unit training, compared to soldiers in the control group, would be more likely to report receiving mental health treatment at the three-month follow-up.

Hypothesis 4: Soldiers in the unit training condition will possess more positive implicit attitudes toward mental health treatment at the three-month follow-up.

Method

Participants and design

A total of 349 active duty US Army soldiers ($N = 272$) and squad/section leaders ($N = 77$) from 61 squads/sections in two Battalions from an Infantry Brigade participated in the study at the baseline assessment. The participants were evenly split between the two battalions (50% each). Participants were randomly assigned by squad to either the training or survey-only control conditions, with 51% ($n = 179$) of the participants being assigned to the training condition and 49% ($n = 170$) being assigned to the survey-only control condition.

The majority of the sample was male (84%, 16% female), with an average age of 26.36 ($SD = 6.36$). Soldiers had been in the military for an average of 4.74 years ($SD = 5.22$). The majority of participants were White (51%), followed by African-American (25%). Almost all of the participants were either junior enlisted (E1–E4, $n = 247$, 71%) or non-commissioned officers (E5–E7, $n = 98$, 28%).

Three months later, 270 soldiers participated in the follow-up assessment. Soldiers were matched based on an arbitrary code they completed on both the baseline and three-month follow-up measures. The code had participants fill in the last 5 digits of their social security number as well as the state or territory they were in on 11 September 2001 (see Adler, Britt, Kim, Riviere, & Thomas, 2015). Of the 349 soldiers who completed the baseline assessment, 112 (32%) responded to the three-month follow-up. The matching rate found in the present research is consistent with prior research and reflects military personnel

moving to new duty locations or being away for operational training exercises at any given time period (Adler et al., 2015). Analyses were conducted to examine potential differences between the matched sample and those individuals who completed the baseline assessment but did not complete the three-month follow-up assessment. Demographic comparisons using chi-square tests of independence revealed no significant differences in the composition of the matched sample compared to those who did not participate in the follow-up assessment in terms of gender (χ^2 (1) = 0.17, $p > .05$), rank (χ^2 (3) = 2.86, $p > .05$), or ethnicity (χ^2 (4) = 2.24, $p > .05$). A one-way ANOVA also revealed no difference in age ($F(1, 346) = 0.36$, $p > .05$). Because of the small number of leaders in the matched database ($N = 12$ in the training condition, $N = 17$ in the control condition), analyses were not conducted on measures administered only to leaders for the matched baseline to three-month follow-up sample.

Analyses were also conducted comparing differences between the two battalions who participated in the study. Using the matched sample, soldiers from the two battalions did not differ in terms of baseline confidence ($F(1, 112) = 3.57$, $p = ns$), mental health knowledge ($F(1, 112) = 0.76$, $p = ns$), or supportive behaviours ($F(1, 81) = 0.02$, $p = ns$). There was a small difference in the battalions in treatment seeking in the prior three months at baseline (χ^2 (1) = 4.16, $p = .04$). We did not control for battalion given that soldiers from the two battalions were randomly assigned to the training and survey-only control groups and there were no baseline differences between the conditions (see below).

Description of the unit training

The training took place in 10 different sessions, each session lasting approximately 2 hours, with a 10-minute break at approximately the halfway point. Each session featured a PhD-level faculty member as the primary facilitator (the first, fourth, and fifth authors) along with a graduate student assistant and an ombudsman who answered any questions soldiers had regarding their rights as research participants. The objectives were to encourage soldiers to be more supportive of fellow soldiers getting mental health treatment by understanding (1) the common symptoms of mental health concerns and when a problem needs to be addressed, (2) the benefits of getting help for mental health problems, (3) the barriers and facilitators of treatment seeking (including those that result from the actions of fellow unit members), (4) what happens during treatment and providing accurate information about the use of medication, (5) how unit climate can affect a soldier's decision to seek help, and (6) actions peers can take to help fellow soldiers get help.

The training was designed to be discussion-oriented and interactive, and soldiers were strongly encouraged to speak and ask questions; thus, there were no PowerPoint slides. Handouts highlighting the important messages from the training session as well as listing various national and local resources were provided to soldiers for their future reference. Six video interviews of soldiers who had sought treatment and mental health professionals were also presented throughout the training session. The videos highlighted several messages, including the recognition of mental health symptoms, benefits of treatment, barriers soldiers experienced, the nature of mental health treatment, how to support soldiers who need treatment, and the importance of fellow soldiers facilitating treatment.

The training also included an interactive exercise using an electronic classroom response system. Soldiers anonymously responded to questions about various unit-level

supportive and unsupportive behaviours related to mental health problems and treatment (e.g. "Soldiers in my unit encourage fellow Soldiers to get professional help when necessary" and "Negative comments about Soldiers who get mental health treatment are tolerated in my unit"). The responses of soldiers were displayed on a graph in an anonymous fashion, followed by a discussion of how to increase supportive behaviours and decrease unsupportive behaviours.

The training emphasised looking out for battle buddies, the responsibilities of peers to recognise mental health symptoms among their unit members, and ways in which soldiers can contribute to a more positive unit climate that is supportive of treatment seeking. The training provided to squad/section leaders occurred separately from the unit member training. The training covered the same general areas as that of the unit members. However, leader training also highlighted the important role played by the leaders themselves in creating a supportive climate for soldiers getting help. The leaders also generated specific goals for improving the supportive climate of their unit. Soldiers and leaders were trained in separate sessions.

Evaluation of the training was assessed through 11 items that assessed soldier perceptions of the usefulness, effectiveness, and relevance of the training (e.g. "I found this training session to be useful"), and whether they learned specific behaviours relevant to the training (e.g. "I learned specific actions that I can take to encourage soldiers to seek help"). The items were rated on a 7-point agreement scale anchored by "Strongly Disagree" (1) and "Strongly Agree" (7).

Baseline survey

Knowledge about mental health issues was assessed through eight multiple-choice factual questions that assessed soldier knowledge of mental health problems and treatment seeking in the military. Questions were developed as a result of prior research on mental health problems and treatment seeking in the military. Two sample items were "Among soldiers with mental health problems, what proportion seek treatment?" and "How long does it typically take for psychotherapy (talk therapies) to start working for mental health problems?" Respondents were provided four response options for each knowledge item, and the number of correct responses was summed to compute their knowledge scores.

Confidence in helping fellow soldiers was assessed with a three-item measure including the questions "I believe I can succeed in helping a fellow Soldier get needed mental health treatment," "I am confident that I can effectively help a fellow Soldier get mental health treatment if needed," and "I will be able to overcome the challenges associated with helping a fellow Soldier get mental health treatment." Although these items were developed for the present study, they were created according to guidelines recommended by Bandura (1997) for developing self-efficacy items specific to the domain of behaviour of interest. These items were rated on a 5-point agreement scale anchored by "Strongly Disagree" (1) and "Strongly Agree" (5). Cronbach's alpha for the measure at baseline was .90.

Supportive behaviours were assessed through five items addressing whether soldiers had engaged in behaviours supporting fellow soldiers with mental health concerns. The items were developed in part based on the qualitative research by Zinzow et al. (2013) highlighting factors that would increase treatment seeking among military personnel. Respondents

answered either "yes" (1) or "no" (0). Sample items for the soldier-supportive behaviours included "In the past 3 months, did you offer assistance to a soldier who was struggling with mental health concerns?" and "In the past 3 months, did you provide support for a fellow soldier who was currently in treatment?" Responses to these five items were summed to generate each person's score on supportive unit behaviours (alpha = .87 at baseline). These items were administered to the unit members in the sample. A separate set of supportive leader behaviour items were administered to the leaders. However, this measure was not analysed due to the small number of leaders matched from baseline to the three-month follow-up.

Treatment seeking was measured in multiple ways in order to capture any attempt soldiers made to reach out to professionals for mental health services (Britt et al., 2016; Zinzow et al., 2015). First, soldiers were asked "In the past 3 months, did you receive mental health services (e.g. individual therapy, group therapy) for a stress, emotional, alcohol, or family problem from any of the following professionals?" Soldiers were indicated as having sought treatment if they reported to receive mental health services from a mental health professional at a military or civilian facility or a primary care/general medical doctor at a military or civilian facility. Second, participants were asked "In the past 3 months, how many visits did you attend for mental health problems?" Response options were "0," "1–2," "3–7," "8–12," and "more than 12." Participants were indicated as having sought treatment if they reported 1–2 visits or more.

Three-month follow-up

Participants completed the same survey that was administered at baseline, including assessments of knowledge about mental health issues, awareness of mental health treatment, confidence in helping fellow soldiers, supportive behaviours toward soldiers, and mental health treatment seeking. In addition, two 5-minute IATs were developed to evaluate soldier's implicit attitudes toward mental health treatment in comparison to medical treatment (see Goguen et al., 2016).

On opposite sides of the computer screen, the IAT presented two focal categories: (1) mental health treatment and (2) medical treatment, with each of these being paired with either a positive or negative term (i.e. good vs. bad and effective vs. ineffective). When an attribute (e.g. great) appeared in the middle of the screen, soldiers were asked to categorise the attributes into the appropriate categories. The IAT records response time (in milliseconds) for correct categorisations. A longer response time would suggest implicit bias in cases where two terms (e.g. mental health treatment and effective) were not automatically associated by participants. The IAT software computes based on the scoring procedure recommended by Greenwald et al., (2003), which is a measure of bias based on the differences in response time between trials focusing on mental health treatment and those focusing on medical treatment. A positive score would indicate more bias against mental health treatment. Goguen et al. (2016) demonstrated a negative bias of mental health treatment being responded to as less good and less effective than medical treatment among a sample of college students. The IAT has been found to be a reliable and valid way of assessing implicit attitudes toward a variety of objects (Bar-Anan & Nosek, 2014). These IATs were not assessed at baseline due to the time commitment of soldiers in the training condition.

Procedure

In all of the sessions, at least one investigator, one graduate student, and one ombudsman were present. The investigators briefed the soldiers at the beginning of all sessions on the purpose of the study, and soldiers were given an informational letter about the project. Soldiers were given an option on all of the surveys of whether they agreed to have their responses used for research purposes. Soldiers could also choose not to respond to any of the survey questions. Only responses from consenters were included in the current study analyses.

Soldiers from up to five squads participated in a given training session, and soldiers from up to six squads participated in a single survey-only control session. Soldiers in the unit training and control conditions were assessed in different rooms and/or different times. Given that multiple squads participated in a given training or survey-only control session, the fact that many soldiers did not provide their unit information on the baseline assessment, and the relatively small number of soldiers in the matched sample, the analyses in the present research are conducted at the individual soldier level rather than the unit level of analysis. Soldiers in both the unit training and survey-only control conditions completed a 30-minute baseline survey assessment. Soldiers in the unit training condition then participated in the unit training described earlier, whereas soldiers in the survey-only control condition were dismissed. Three months later, soldiers from the same two battalions were recruited to participate in the follow-up assessment. They completed the three-month follow-up survey and then completed the two 5-minute computerised IATs to assess their implicit attitudes toward mental health treatment.

Results

Evaluations of the training

Responses to the immediate post-training survey showed that the training was well received by the participants. The responses to specific evaluation items are presented in Table 1. The means on all the items were above 5 on a 1–7 scale, where higher numbers represented more favourable ratings. Participants indicated that they generally understood the content, enjoyed the delivery methods, and found it applicable.

Table 1. Means and standard deviations of responses to items evaluating the training.

	Mean	*SD*
This training was relevant for Soldiers in my unit.	5.68	1.27
I found this training session to be useful.	5.68	1.34
I understood the information in this training session.	6.05	1.06
I liked the group exercises in this training session.	5.74	1.22
I liked the videos in the training.	5.65	1.19
This training session encouraged Soldiers (Leaders) to look out for one another.	5.87	1.16
I learned specific actions that I can take to encourage Soldiers to seek treatment.	5.86	1.16
I learned how to recognize when mental health problems require treatment.	5.61	1.30
My attitude toward mental health treatment was improved by this training.	5.58	1.38
My attitude toward those who get mental health treatment improved as a result of this training.	5.64	1.22
My attitude toward mental health professionals improved as a result of this training.	5.64	1.33

Note: Responses provided on a 1–7 scale where 1 = "Strongly Disagree" and 7 = "Strongly Agree."

Baseline differences between the training and survey-only control groups

Demographic comparisons using chi-square tests of independence revealed no differences in the composition of the training and control groups in terms of gender (χ^2 (1) = 0.15, p = .70), rank (χ^2 (3) = 3.89, p = .27), or ethnicity (χ^2 (4) = 2.31, p = .68). A one-way ANOVA also revealed no significant difference in age (F(1, 345) = 3.59, p = .06). In addition, a series of one-way ANOVAs revealed no differences in the major baseline study variables of supportive unit behaviours (F(1, 348) = 0.007, p = .93), confidence in helping a fellow soldier get treatment (F(1, 348) = 0.17, p = .68), awareness of treatment (F(1, 348) = 0.06, p = .81), and knowledge of mental health issues (F(1, 347) = 2.43, p = .12). A chi-square test of independence also revealed no difference in the number of soldiers who had sought treatment between the training and control group (χ^2 (1) = 1.43, p = .23).

Effects of training condition and time

A series of 2 (baseline, three-month) x 2 (training, control) mixed-methods ANOVAs were used to test for the effects of the training over time. We did not include whether or not the soldier was a leader or unit member in the analyses because of the limited number of leaders in each of these conditions at the follow-up assessment. The results are first presented for confidence in helping a fellow unit member and supportive behaviours towards unit members with mental health problems, followed by knowledge of mental health treatment.

Confidence in helping fellow soldiers

For confidence in helping a fellow soldier, there were no main effects of time (F(1, 112) = 0.05, p = .82) or condition (F(1, 112) = 0.001, p = .97), and no significant interaction between time and condition (F(1, 112) = 0.47, p = .49). Overall, scores on confidence in helping a fellow soldier were high among participants at baseline (M = 4.10, SE = .05, on a 1–5 scale), which may have contributed to the failure to find effects of unit training compared to the survey-only control condition.

Supportive behaviours

For actual supportive behaviours toward fellow unit members with mental health problems, there was no significant main effect of time (F(1,75) = 0.69, p = .41). However, there was a significant main effect of training condition (F(1, 75) = 7.90, p < .01, η^2 = .10), along with the predicted interaction between time and training condition (F(1, 75) = 6.94, p = .01, η^2 = .09). Figure 1 provides a graph of the interaction. As expected, those soldiers in the training condition showed a significant increase in the number of supportive behaviours they engaged in at the three-month follow-up compared to baseline (F(1, 51) = 7.71, p < .01, η^2 = .13). In contrast, those soldiers in the control group did not show an increase in supportive behaviours at the three-month follow-up (F(1, 24) = 2.09, p = .16). Viewing the interaction differently, the training and survey-only control group did not differ in their supportive behaviours toward fellow soldiers at baseline (F(1, 81) = 2.34, p = .13), but the training group reported more supportive behaviours at the three-month follow-up than the control group (F(1,81) = 8.75, p < .01).

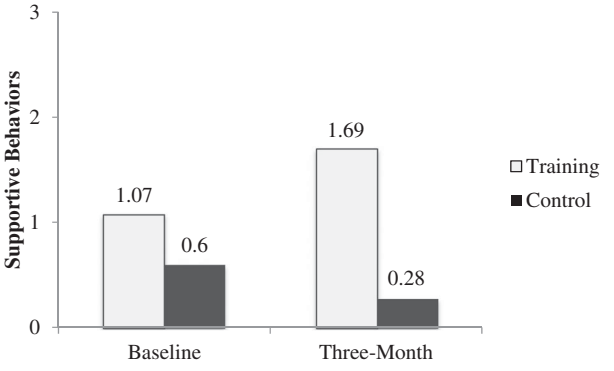

Figure 1. Number of supportive behaviours as a function of training condition and time period.

Mental health knowledge

In terms of knowledge of treatment issues in the military, there was a main effect of time ($F(1, 111) = 6.27$, $p = .01$), indicating higher knowledge levels at the three-month follow-up ($M = 5.08$, $SE = .13$) than at baseline ($M = 4.72$, $SE = .13$). There was neither a significant main effect of condition ($F(1, 111) = 0.25$, $p = .62$) nor a significant interaction between time and condition ($F(1, 111) = 1.41$, $p = .24$). Given the main effect of time was not qualified by a condition X interaction, it is possible that personnel in the survey-only control group could have become interested in mental health issues as a result of completing the baseline survey, resulting in an increase in knowledge at the three-month follow-up.

Mental health treatment seeking

We examined treatment seeking at baseline and at the three-month follow-up for those participants in the unit training condition versus those in the survey-only control group. There were no differences between the training and survey-only control groups in treatment seeking at baseline (χ^2 (1) = 1.31, $p = .25$). However, at the three-month follow-up, a marginally significant higher percentage of soldiers in the training condition had sought treatment (21.4%) than in the survey-only control group (7.5%) (χ^2 (1) = 3.61, $p < .06$).

Implicit associations for mental health treatment

We examined the responses on the IATs at the three-month follow-up. We found evidence for significant bias toward mental health treatment as being less good and less effective when compared to medical treatment. The average GNB scores were significantly different from zero on both the good–bad IAT ($M = 0.15$, $SD = .02$, $t(231) = 7.17$, $p < .01$) and the effective–ineffective IAT ($M = 0.08$, $SD = .02$, $t(226) = 4.06$, $p < .01$). In addition, the two implicit attitudes were positively correlated with one another (r (210) = .20, $p < .01$). However, there were no significant differences in implicit attitudes based on whether the soldier received the unit training or were in the survey-only control condition.

Discussion

The present study developed and tested a training programme designed to encourage soldiers to support their fellow unit members experiencing mental health problems and to indirectly promote mental health treatment seeking more generally. This training programme was developed in order to address the well-documented concern for the number of soldiers who experience mental health problems yet do not seek treatment (e.g. Kim et al., 2010). The training received favourable evaluations from soldiers, and the study results provide preliminary evidence that a training focused on supporting fellow soldiers to seek treatment results in an increase in the number of supportive behaviours performed.

Our results indicated that soldiers reported engaging in more supportive behaviours after receiving the training compared to the control group. The outcome of supportive behaviours was the primary target of the intervention, with the goal of fostering a more supportive climate toward seeking mental health treatment when needed. Focusing on supporting fellow unit members may be a particularly important strategy in the context of military units and other high-risk occupations that emphasise close, trusting bonds (Bacharach & Bamberger, 2007; Britt & McFadden, 2012). In addition, increasing supportive behaviours should result in strengthening the subjective norms component of the TPB (Ajzen, 1985), where individuals believe that others important to them want them to get treatment.

In addition, we found that those who received the training reported seeking treatment at marginally higher rates at the follow-up assessment compared to those in the control condition. We acknowledge this finding should be interpreted with caution due to the small sample size. In addition, the finding was only marginally significant within those personnel in the training condition and did not reflect differences in treatment seeking between the training and survey-only control group. In general, prior help-seeking interventions have not resulted in increases in treatment seeking (Gulliver, Griffiths, Christensen, & Brewer, 2012), However, this trend could further support the value of indirect messages in encouraging others to seek help, thus increasing individual intentions to seek treatment themselves if needed (Siegel et al., 2015).

Although we found increases in supportive behaviours, we did not find strong evidence for increases in confidence in helping fellow unit members get treatment or knowledge of mental health issues in the military. The failure to find significant effects of training on confidence in helping fellow soldiers get mental health treatment was likely a function of ceiling effects created by the very high mean on the variable at baseline. The lack of effects on mental health knowledge may be due to a lack of transfer of the knowledge to the operational setting of the soldiers, as soldiers may not need to recount information, such as facts about psychotherapy or where mental health professionals are located.

Although our study has strengths in the design and implementation, we acknowledge limitations that offer areas for future research. First, our sample size was relatively small to find strong effects of the training over time. We were also unable to conduct analyses at the unit level to more explicitly examine contextual changes in the unit climate. Thus, we encourage future researchers to implement our training, or a similar training, among a larger sample to more fully examine unit-level changes. Second, the primary effects

of the unit training were significant for variables assessed through the method of self-report. In addition, the majority of these measures were developed for the present study, and therefore the results with these measures are not directly comparable with research that uses validated measures of mental health knowledge and attitudes towards mental health treatment in other military populations. While self-report information is valuable in assessing individual knowledge and attitudes, more objective measures of treatment seeking may provide valuable information in future studies. Our study did use the IAT to assess implicit attitudes toward mental health treatment (Goguen et al., 2016). Although the findings showed that soldiers in general viewed mental health treatment as less good and less effective than medical treatment, these attitudes were not significantly different between the unit training and control groups. In addition, given the IAT was only administered at the third month, we were unable to examine changes in implicit attitudes toward treatment from before the training until the three-month assessment.

As a final consideration, our study used a design of an experimental training group and a survey-only control group, which helped to account for confounding effects of simply being involved in a study or taking the survey assessment. However, future studies could use active control groups that receive a more neutral training to make stronger causal inferences. Furthermore, given the failure to find effects of our training on mental health knowledge, we recommend including booster sessions to reinforce the key elements of the training. In addition, spreading the training over several sessions could allow soldiers to practise the skills learned in the training and receive feedback on their performance (Saks & Belcourt, 2006). Additional studies could also include non-self-report measures of supportive behaviours (e.g. potentially through observer ratings of such behaviours) and treatment seeking (e.g. through assessing service member medical records). Objectively assessing supportive behaviours by soldiers not involved in the training would also help address a concern with the present study that soldiers exaggerated their reports of supportive behaviours because they remembered participating in the training.

In addition to the future directions discussed in light of the study limitations, we see several other opportunities for research based on our study findings. We encourage researchers to apply this training to other occupational settings. Training on supporting co-workers who may need professional help could be particularly important in occupations that share a similar organisational culture as the military (i.e. high-risk jobs such as police officers, firefighters, first responders that share an emphasis on unit cohesion and trusting bonds). We note, however, that mental health problems can be costly to all occupations in terms of worker well-being, productivity loss, and even financial costs in providing health care (e.g. Goetzel, Ozminkowski, Sederer, & Mark, 2002). Thus, interventions to encourage fellow workers to seek help, be informed of symptoms, and demonstrate support may be valuable to a broad range of occupations.

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