ELSEVIER

Coming Home: Social Functioning and the Mental Health of UK Reservists on Return From Deployment to Iraq or Afghanistan

SAMUEL B. HARVEY, MRCPSYCH, STEPHANI L. HATCH, PHD, MARGARET JONES, BA, LISA HULL, MSC, NORMAN JONES, MSC, NEIL GREENBERG, MD, CHRISTOPHER DANDEKER, PHD, NICOLA T. FEAR, DPHIL(OXON), AND SIMON WESSELY, FMEDSCI

PURPOSE: There is speculation that high rates of mental illness among Reservists returning from deployment to Iraq and Afghanistan may be due to the challenge of reintegrating into civilian life. We aimed to examine the postdeployment social functioning of Reservists and to explore the relationship between adverse postdeployment experiences and subsequent mental ill health.
METHODS: A sample of 4,991 UK military personnel who had deployed to either Iraq or Afghanistan were asked about their postdeployment experiences with a particular focus on their levels of social integration, perceived support from the military, and civilian employment. All participants were asked to complete a series of validated measures of mental health.
RESULTS: Compared with Regular personnel, Reservists were more likely to feel unsupported by the military and to have difficulties with social functioning in the postdeployment period. Perceived lack of support from the military was associated with increased reporting of probable posttraumatic stress disorder (PTSD) and alcohol misuse. Low levels of non-military postdeployment social support and participation were associated with increased reporting of common mental disorder, probable PTSD, and alcohol misuse.
CONCLUSIONS: Many Reservists find the transition from military deployment to civilian life difficult. Differences in postdeployment experiences may explain some of the increased rates of mental ill health among Reservists.
Ann Epidemiol 2011;21:666–672.

KEY WORDS: Military Personnel, Social Support, Social Participation, Employment, Unemployment, Mental Disorders, Posttraumatic Stress Disorder, Combat Disorders, Alcohol Drinking, Alcohol-Related Disorders.

INTRODUCTION

Over recent decades, most Western states have reconfigured the composition of their military, with a greater reliance on Reservist personnel to supplement the work of Regular military personnel (1–3). Whereas most Reserve Forces were initially established for home defense roles, they have increasingly been utilized to assist in operations abroad. In the United States, over 760,000 National Guard and Reservist personnel mobilizations have occurred since 2001 (4). At the height of recent overseas conflicts, close to 40% of deployed US forces have comprised of Reservists (1). Within the United Kingdom (UK), there are over 36,000 Volunteer Reservists, who make up approximately one third of the total strength of the British Army (2).

The increasing operational role for Reservists has not been without difficulties. Empirical studies based in both the United States and UK have demonstrated that, compared with Regular military personnel, Reservists have an increased prevalence of mental illness postdeployment (5–8). UK Reservists who deployed to the 2003 Iraq War were more than twice as likely to report symptoms of common mental disorders and probable posttraumatic stress disorder (PTSD) compared with those who did not deploy (5). The same study did not find any such impact of deployment among Regulars (5), although a number of other studies have found expose to combat to be a risk factor for PTSD among Regular Forces (9–11). Interestingly, and perhaps paradoxically, differences in perceived combat

From King's College London, Institute of Psychiatry (S.B.H., S.L.H.); King's Centre for Military Health Research, King's College (M.J., L.H., C.D., S.W.); and Academic Centre for Defence Mental Health, King's College (N.J., N.G., N.T.F.), London, UK.
Address Correspondence to: Samuel B. Harvey, MRCPsych, King's College London, Institute of Psychiatry, Department of Psychological Medicine, Weston Education Centre, 10 Cutcombe Road, London SE5 9RJ, United Kingdom. E-mail: samuel.b.harvey@kcl.ac.uk.
Funded by the UK Ministry of Defence (MoD). SBH, SLH and SW are supported by the NIHR Biomedical Research Centre for Mental Health at the South London and Maudsley NHS Foundation Trust and Institute of Psychiatry, King's College London.
Received January 23, 2011. Accepted April 18, 2011. Published online July 7, 2011.

360 Park Avenue South, New York, NY 10010
1047-2797/$ - see front matter
doi:10.1016/j.annepidem.2011.05.004

Selected Abbreviations and Acronyms

PTSD = posttraumatic stress disorder
UK = United Kingdom

experience have not explained the increased rates of postdeployment PTSD symptoms among Reservists, which seem to be more closely related to reported problems at home, both during and after deployment (12). A recently published cross sectional analyses of US Reservists indicated that a significant minority of Reservists felt that deployment to Iraq had led to financial difficulties or civilian job loss, and confirmed that these difficulties seemed to be independent risk factors for postdeployment depression and PTSD (13). In response to such findings, both the US and UK military forces have placed increased emphasis on the welfare of their Reserve Forces with a number of initiatives aimed at improving mental health both during and after deployment. Despite this, follow-up studies have continued to demonstrate that Reservists remain at particular risk for postdeployment mental health problems (6, 8). Qualitative studies have also revealed that for many Reservists issues related to their family and their career continue to be a major cause of stress, both during and after deployment (3).

In the current study, we have used data from a large cohort of UK military personnel to examine the experiences of Reservists returning from deployment to Iraq or Afghanistan. We aimed to describe the level of postdeployment social functioning, to compare this with the experiences of Regular military personnel, and then to establish the associations between adverse postdeployment experiences and various mental health outcomes.

METHODS

Study Design and Participants

This study utilized data collected as part of a UK-based cohort study of military personnel. The study was conceived in 2003 to monitor the health of individuals who had taken part in the initial invasion of Iraq (5). Because operations in Iraq continued and a new major deployment to Afghanistan began, the follow-up of this sample has been supplemented with 2 new groups (8). In brief, this methodology resulted in participants being drawn from 3 separate sources: 9,395 participants followed from phase 1 (a randomly selected group of deployed and non-deployed personnel after the 2003 Iraq war) (5); 1,789 randomly selected personnel who had deployed to Afghanistan at anytime between April 2006 and April 2007; and a replenishment sample of 6,628 randomly selected individuals who had joined the UK Armed Forces since the cohort was first recruited in 2003. Data collection began in November 2007 and ended in September 2009, with nonresponders actively followed with repeat mailings, base visits, and intensive tracing involving telephone contact where possible (9).

A total of 9,990 participants completed the study questionnaire, resulting in a response rate of 56%. As previously reported, response was associated with older age, being female, being an officer, and being a member of the Regular Forces (8). Non-response at phase 2 was not associated with mental health status (probable PTSD, common mental disorder, or alcohol misuse) at phase 1. We have previously shown that non-response was more closely related to practical issues such as difficulty tracing individuals or apathy (8, 14). Overall the response rate in this sample is significantly higher than that obtained in other longitudinal studies of military personnel (15).

Measures of Postdeployment Social Functioning

When a participant indicated that they had deployed to either Iraq or Afghanistan, they were asked a number of questions about their postdeployment experiences. Where an individual had deployed to both Iraq and Afghanistan, responses relating to whichever was their most recent deployment were considered. Current models of social functioning have proposed that social networks influence health via a number of different pathways, such as social support, social participation, and access to material goods, each of which may operate within specific social contexts (16). In line with this model, each participant was asked a variety of questions related to social support, social participation, and access to material resources in their military, nonmilitary, and civilian work social contexts. Provision of social support within the military social context was assessed by asking participants whether they had felt well-supported by the military in the weeks after returning home from deployment. Participants' non-military social support and engagement was measured by asking participants whether, in the weeks after they returned home, they had difficulty resuming normal social activities, felt people did not understand what they had been through, felt let down by people who they thought would stand by them, and whether they felt unable to talk about their experiences with family and friends. Each participant was given 2 options for each statement, either agree or disagree. In addition to being considered separately, these questions were used to construct a summary measure, with those endorsing at least 2 of the 4 measures being classified as having lower levels of nonmilitary social support and participation. To examine social support, participation, and access to resources in the civilian work setting, Reservists, but not Regulars, were asked additional questions regarding their civilian employment. They were asked to indicate whether they had a civilian job at the

AEP Vol. 21, No. 9
September 2011: 666–672

time of their deployment, and if so whether they were able to return to the same job postdeployment. If they were able to return to the same job, they were asked whether they felt they had lost seniority, promotion, responsibility, or income as a result of their deployment and whether they felt they had been supported by their employer and co-workers. Participants who had not been able to return to the same job were asked to indicate whether this had been their own choice or because of their employer not keeping their job open for them.

Measures of Mental Health

All participants were asked to complete a series of validated measures of mental health symptoms. Symptoms of common mental disorders were measured using the 12-item General Health Questionnaire (17). This is a measure of common mental health problems including anxiety and depression, with a cutoff for caseness of 4 or more (18, 19). Symptoms consistent with PTSD were identified using the 17-item National Centre for PTSD Checklist, with probable PTSD defined by a score of 50 or more (20). Finally, alcohol use was assessed using the 10-item WHO Alcohol Use Disorders Identification Test (21). This is a validated and widely used measure of alcohol misuse, with scores of 16 or more usually indicating a high level of alcohol consumption, which is likely to be harmful to health (21). There are a variety of clinical terms used to describe different levels of alcohol misuse, such as hazardous use or harmful use, but for consistency with previous publications we have termed a score of 16 or more on the WHO Alcohol Use Disorders Identification Test as alcohol misuse.

Other Measures

Information on potential confounding factors, including gender, age, rank, service branch, deployment location and role during deployment, was also collected.

Statistical Analyses

To achieve adequate numbers, Reservists were oversampled in both phases 1 and 2 of this study (2:1 and 3:1, respectively). To take account of this and other sampling strategies, sampling weights were generated to reflect the inverse probability of a subject from specific subpopulations being sampled. Response weights were also constructed to take account of non-response according to gender, rank, engagement type (Regular/Reservist status), age, sample, and the interaction between sample and engagement type (factors empirically shown to predict response). The sample and response weights were multiplied to generate a combined weighting used for all analyses.

All analyses were conducted using STATA version 10 software for Windows (22). The sociodemographic details of Regular and Reservist personnel included in these analyses were initially described, with differences in terms of potential confounding variables (gender, age, rank, service branch, deployment location, and role during deployment) examined using Pearson chi-square statistics. The frequency of various postdeployment experiences were also described, with differences in rates of adverse experiences between Regular and Reservist personnel explored using univariable and multivariable logistic regression. Finally, the associations between adverse postdeployment experiences and mental health outcomes were examined using multivariable logistic regression. Multivariable models considered gender, age (as a continuous variable), rank, and service branch as covariates. All tables presented include weighted percentages and odds ratios (including 95% confidence intervals) together with unweighted cell counts.

Ethics and Role of the Funding Source

The cohort study of UK military personnel was approved by the Ministry of Defence research ethics committee and King's College Hospital's local research ethics committee. Although the UK Ministry of Defence funded this study, they had no role in the study design, data analyses, or data interpretation. This independence was made clear to all participants. All participants were asked to provide personal details in order to facilitate future longitudinal follow-up. However, they were reassured that this information would be kept separate from the remainder of their questionnaire, that their responses would remain confidential, and that the military would not know if they had participated or any of their responses.

RESULTS

Description of Sample

Of the 9,990 study participants, 5,005 (50.1%) had deployed —2,492 to Iraq only, 1,451 to Afghanistan only, and 1,062 to both Iraq and Afghanistan. For 14 individuals, it was not possible to clarify which was their more recent deployment, so they were excluded from further analyses. Thus, 4,991 deployed personnel comprise the sample for this study. The characteristics of both the Regular (n = 4,488; 89.9%) and Reservist (n = 503; 10.1%) personnel involved in this study are displayed in Table 1. Reservists were more likely to be older, of higher rank, female, and serving in the Army than Regulars.

Support From Civilian Employers

Of the 503 Reservists in the sample, 353 (70.2%) reported being in civilian employment at the time of their call up for deployment. Information on postdeployment work status

TABLE 1. Description of deployed Reservists (n = 503) and Regular military personal (n = 4,488)

Variable	Frequency (%)* Reservists (n = 503)	Regulars (n = 4,488)	*p*-value†
Gender			.004
Male	444 (88.2)	4,122 (92.8)	
Female	59 (11.8)	376 (7.2)	
Age at questionnaire completion (yrs)			
Mean ± SD	36.8 ± 10.1	30.8 ± 7.7	<.0001
<25	69 (17.0)	1,111 (20.7)	<.0001
25–29	65 (12.1)	1,096 (24.5)	
30–34	101 (19.3)	994 (23.9)	
35–39	65 (12.8)	649 (16.3)	
>40	203 (38.8)	638 (14.7)	
Rank			<.0001
Officer	143 (24.1)	881 (16.5)	
Noncommissioned officer	236 (48.3)	2,586 (64.1)	
Other rank	124 (27.6)	1,021 (19.5)	
Service branch			.02
Naval services	34 (6.7)	458 (9.5)	
Army	411 (79.9)	3,148 (72.4)	
Royal Air Force	58 (13.5)	882 (18.1)	
Most recent deployment			.48
Iraq	227 (61.9)	2,435 (59.9)	
Afghanistan	276 (38.1)	2,053 (40.1)	
Role during deployment			.73
Combat	96 (24.1)	1,073 (25.1)	
Support	371 (75.9)	3,320 (74.9)	

Note: Numbers may not add to totals owing to missing data.
*Percentages are adjusted to take account of the sample and response weights.
†Pearson chi squared test corrected for sample and response weights. Student *t* test used when testing for difference in mean age.

was available for 351 (99.4%) of these individuals: 282 (81.1%) returned to the same job after their deployment to Iraq or Afghanistan, 51 (13.0%) resigned either at the time of their call up or on their return, and 18 (5.6%) reported losing their job through redundancy or their employer not keeping their job open for them. Among those who had a civilian job to return to, 85 (31.4%) felt they had lost seniority, promotion opportunity, responsibility, or income as a result of their deployment and 59 (24.0%) felt unsupported by their employer and/or co-workers. Overall, 133 (40.4%) of Reservists who had a civilian job at the time of their call up reported some perceived deployment-related problems with their civilian employment (either involuntary loss of their job, perceived loss of promotion and responsibility, or lack of support).

Support From the Military

Of the 503 Reservists, 205 (43.6%) reported feeling poorly supported by the military in the weeks after they returned from deployment. This compares with 1,256 (30.1%) of deployed Regulars (adjusted odds ratio, 1.73; 95% confidence interval, 1.34–2.24; $p < .001$).

Non-Military Social Support and Participation

Compared with Regular personal, Reservists were more likely to report feeling that people did not understand what they had been through, and to have difficulties in resuming normal social activities (Table 2). Reservists were more likely than Regulars to be classified as having overall low levels of social support and participation (adjusted odds ratio, 1.48; 95% confidence interval, 1.14–1.92; $p = .003$).

Overall Levels of Social Functioning

Overall, 343 of the 503 Reservists (69.2%) reported some difficulty in postdeployment social functioning in at least 1 of 3 social domains enquired about (military, non-military, and civilian work). The majority of these (n = 178) reported problems in only 1 domain, although a small

TABLE 2. Associations between postdeployment social functioning and Reservist status

Variable	Frequency (%) Reservists (n = 503)	Regulars (n = 4,488)	Unadjusted odds ratio (95% confidence interval)	Adjusted odds ratio* (95% confidence interval)	*p*-value for adjusted model
Lack of support from military.	205 (43.6)	1256 (30.1)	1.80 (1.40–2.30)	1.73 (1.34–2.24)	<.001
Let down by people who they thought would stand by them.	71 (15.1)	457 (11.1)	1.43 (1.01–2.02)	1.34 (0.94–1.91)	.11
People did not understand what they had been through.	339 (69.0)	2514 (57.9)	1.62 (1.24–2.10)	1.99 (1.50–2.63)	<.001
Did not want to talk about experiences with family and friends.	175 (38.5)	1611 (36.9)	1.07 (0.84–1.37)	1.10 (0.85–1.42)	.47
Difficulty resuming normal social activities.	157 (34.1)	825 (19.3)	2.17 (1.67–2.81)	2.30 (1.75–3.01)	<.001
Difficulty with postdeployment social support and participation.†	209 (44.5)	1598 (37.3)	1.35 (1.06–1.73)	1.48 (1.14–1.92)	.003

Note: Odds ratios are for lower levels of social functioning compared with Regular military personnel. Percentages are adjusted to take account of the sample and response weights.
*Adjusted for gender, age (as continuous variable), rank and service branch. All ORs take account of sample and response weights.
†Difficulty with at least 2 of the 4 measures of nonmilitary social support and participation.

TABLE 3. Associations between social functioning and various mental health outcomes among Reservist military personnel

	Common mental disorder*		Probable PTSD*		Alcohol misuse*	
Postdeployment social functioning	n (%)†	Adjusted odds ratio‡	n (%)†	Adjusted odds ratio‡	n (%)†	Adjusted odds ratio‡
Support from civilian employer						
Yes (n = 218)	31 (14.6)	1 (reference)	9 (4.1)	1 (reference)	21 (8.2)	1 (reference)
No (n=133)	34 (22.4)	1.80 (0.90–3.61)	4 (3.0)	0.63 (0.13–2.91)	10 (9.1)	1.14 (0.43–3.05)
Postdeployment support from the military						
Yes (n = 278)	48 (16.0)	1 (reference)	5 (2.2)	1 (reference)	23 (7.7)	1 (reference)
No (n=205)	47 (22.4)	1.41 (0.77–2.57)	14 (8.4)	4.06 (1.13–14.6)§	26 (15.3)	2.24 (1.03–4.87)§
Higher levels of non-military social support and participation						
Yes (n= 264)	29 (9.5)	1 (reference)	3 (0.6)	1 (reference)	21 (6.0)	1 (reference)
No (n = 209)	66 (31.0)	3.90 (2.09–7.29)¶	16 (10.5)	17.1 (4.15–70.2)¶	26 (17.2)	2.81 (1.31–6.03)‖

*Common mental disorder defined by a total GHQ-12 score of 4 or more, probable post traumatic stress disorder (PTSD) as PCL-C of 50 or more and alcohol misuse as a score of 16 or more on the WHO Alcohol Use Disorders Identification Test questionnaire.
†Percentages are adjusted to take account of the sample and response weights.
‡Odds ratios adjusted for gender, age (as continuous variable), rank and service. All odds ratios also take account of sample and response weights.
§$p < .05$.
¶$p < .001$.
‖$p < .01$.

number reported significant difficulties in all 3 domains (n = 39; 9% of all Reservists who deployed).

Mental Health Outcomes

Perceived lack of support from the military was associated with increased reporting of probable PTSD and alcohol misuse (Table 3). Lower levels of postdeployment social support and participation were associated with increased reporting of common mental disorder, probable PTSD, and alcohol misuse. In contrast, perceived lack of support from a civilian employer was not associated with a significant increase in any of the mental health outcomes examined. Additional analyses demonstrated that all components of social support and participation seemed to contribute to the association with mental health outcomes. Each of the 4 components (feeling let down by people they thought would stand by them, people not understanding what they had been through, not wanting to talk about their experiences with family and friends, and having difficulty resuming normal social activities) were individually associated with increased rates of common mental disorders ($p < .01$ for all) and most were associated with at least 1 of either probable PTSD or alcohol misuse (data not shown).

All analyses were repeated separately for those who deployed only to Iraq, those who deployed only to Afghanistan, and those who deployed to both. The results of this post hoc sensitivity analyses showed similar associations in each of these subgroups (data not shown).

DISCUSSION

Using data from a large, epidemiologic study of UK military personnel we report 3 key findings. First, over two thirds of Reservists who have deployed to either Iraq or Afghanistan (since 2003) report adverse postdeployment experiences in terms of their civilian employment, perceived support from the military, or their levels of civilian social support and participation. Second, Reservists were more likely to report adverse experiences compared with Regular personnel. Last, difficulties with postdeployment social functioning were associated with a significantly increased risk of a range of mental health outcomes. In particular, a perceived lack of support from the military was associated with increased rates of probable PTSD and alcohol misuse, whereas poor levels of civilian social support and participation were associated with increased symptoms of common mental disorders, probable PTSD, and alcohol misuse. Our results confirm that many Reservists find the transition between their military and civilian lives difficult and that alternating between these 2 social settings and corresponding social identities often results in them feeling unsupported, misunderstood, and poorly integrated with both sets of social networks (23, 24).

In making these conclusions, we acknowledge our study had some specific limitations. In particular, all data used in this analysis were collected at a single time point. Although the wording of the questionnaire directed participants to recall their postdeployment experience "in the weeks after they returned home" and asked about psychological symptoms over the month before questionnaire completion, there remains a possibility of reverse causation in some of the associations we describe. Although our measures of social support and participation were based on previously described theoretical models (16), we acknowledge that the questions used are not part of a validated measure and may not fully capture all aspects of social functioning. We also acknowledge that our measures of support were self-reported and

therefore capture perceived levels of support. Our response rate of 56% was achieved with considerable effort and extensive use of tracing methods (8). Although we acknowledge some bias in our sample, with young males of lower ranks being less likely to have participated, we have attempted to account for this using appropriately weighted analyses. In addition, while all participants were assured that their responses were confidential, the need for them to provide some personal information on their questionnaire may have resulted in an underreporting of mental health symptoms. Finally, we note that, despite the large size of our sample, the number of Reservists who deployed was relatively small and given the low rates of some outcomes of interest, we accept that some of our models may have lacked sufficient power and therefore been prone to type 2 errors.

The role of social networks in promoting wellbeing or preventing common mental disorders is well established (25, 26). Berkman et al. (16) identified 5 potential mechanisms by which social networks may influence disease patterns: Social support, social influence, social engagement, person-to-person contact, and access to material resources. Our measures of civilian social support and participation, support from the military, and civilian employer support were chosen to cover these 5 domains, and our findings broadly support this model, although we did not identify evidence in our sample for the role of material resources (civilian employment).

Qualitative and quantitative data from both the United States and the UK have previously suggested that Reservists' homecoming experiences may be a determinant of their increased risk of PTSD (3, 6, 12). Although the role of postdeployment rather than trauma-related factors in the genesis of PTSD may seem counterintuitive and in conflict with traditional trauma-focused models of PTSD, this proposal is in keeping with some findings from civilian studies (27, 28). Studies of refugees exposed to combat and war have shown factors such as the quality of refugee camps, obstacles to employment, loneliness, boredom, and social support can all have a mediating effect on the mental health consequences of trauma (29–31). Studies of Vietnam and Iraq war veterans have also highlighted the importance of experiences during and after the transition from military to civilian life (32, 33). In a recent paper, Miller and Rasmussen (34) attempt to "bridge the divide" between trauma-focused and psychosocial approaches to understanding the mental health consequences of conflict exposure by proposing a model which highlights the role of post-trauma "daily stressors" in partially mediating the relationship between war exposure and psychological distress. Our findings support such a model and endorse Miller and Rasmussen's assertion that interventions aimed at reducing the mental health consequences of conflict exposure need to prioritize addressing negative post-conflict stressors (34).

Within the UK, the Reserve Forces (Safeguards of Employment) Act 1985 (Chap 17) provides some protection for Reservists who are called into military service. Reservists can be made redundant while mobilized, but the employer must be able to demonstrate that the process was fairly applied to all employees and the Reservist was not unfairly treated as a result of their mobilization. Despite such policies, a small number of Reservists in our study reported losing their job while on deployment and nearly one third of those who had a job to return to reported a loss in seniority or income. Although we were not able to replicate Riviere et al's finding (13) of a link between postdeployment difficulties with civilian employment and mental health outcomes, there is a strong evidence base for adverse workplace experiences eventually leading to increased rates of common mental disorders (35, 36). Perceived difficulties with civilian work careers is also one of the main reasons sited by those choosing to leave Reserve Forces.

In conclusion, we have demonstrated that many Reservists find the transition from military deployment to civilian living challenging, with increased difficulties in postdeployment social functioning compared with Regular military personnel. We have also demonstrated that, among Reservists, difficulties with social functioning after deployment are associated with increased mental ill health. We propose that differences in postdeployment experiences may account for some of the increased rates of mental ill health among Reservists. Taken together, these results suggest that initiatives to improve the mental health of Reservists should consider interventions focused on the postdeployment period and should aim to maximize social participation and support from both the military and individuals' own civilian social networks.

The authors thank the UK MoD for their help in the execution of the study, the Surgeon General's Department, the Defence Analytical Services and Advice, the single Services, the joint Personnel Administration and the Pensions Compensation and Veterans Unit. We are also grateful to the Directorate of Reserve Forces (MoD) for comments they made on earlier drafts of this manuscript.

REFERENCES

1. Department of Defense. Managing the Reserve Components as an Operational Force. Washington DC: Office of the Assistant Secretary of Defense for Reserve Affairs; 2008.
2. National Audit Office. Ministry of Defence. Reserve Forces. London: The Stationery Office; 2006.
3. Dandeker C, Eversden-French C, Greenberg N, Hatch S, Riley P, Van Staden L, et al. Laying down their rifles: The changing influences on the retention of volunteer British Army Reservists returning from Iraq, 2003-2006. Armed Forces and Society. 2010;36:264–289.
4. Department of Defense. National Guard and Reserve equipment report for fiscal year 2011. Washington. DC: Office of the Assistant Secretary of Defense for Reserve Affairs; 2010.

5. Hotopf M, Hull L, Fear NT, Browne T, Horn O, Iversen A, et al. The health of UK military personnel who deployed to the 2003 Iraq war: a cohort study. Lancet. 2006;367:1731–1741.
6. Thomas JL, Wilk JE, Riviere LA, McGurk D, Castro CA, Hoge CW. Prevalence of mental health problems and functional impairment among active component and National Guard soldiers 3 and 12 months following combat in Iraq. Arch Gen Psychiatry. 2010;67:614–623.
7. Milliken CS, Auchterlonie JL, Hoge CW. Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. JAMA. 2007;298:2141–2148.
8. Fear NT, Jones M, Murphy D, Hull L, Iversen AC, Coker B, et al. What are the consequences of deployment to Iraq and Afghanistan on the mental health of the UK armed forces? A cohort study. Lancet. 2010;375:1783–1797.
9. 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;351:13–22.
10. Shen YC, Arkes J, Kwan BW, Tan LY, Williams TV. Effects of Iraq/Afghanistan deployments on PTSD diagnoses for still active personnel in all four services. Mil Med. 2010;175:763–769.
11. Sundin J, Fear NT, Iversen A, Rona RJ, Wessely S. PTSD after deployment to Iraq: conflicting rates, conflicting claims. Psychol Med. 2010;40:367–382.
12. Browne T, Hull L, Horn O, Murphy D, Fear NT, Greenberg N, et al. Explanations for the increase in mental health problems in UK reserve forces who have served in Iraq. Br J Psychiatry. 2007;190:484–489.
13. Riviere LA, Kendall-Robbins A, McGurk D, Castro CA, Hoge CW. Coming home may hurt: risk factors for mental ill health in US reservists after deployment in Iraq. Br J Psychiatry. 2011;198:136–142.
14. Iversen A, Liddell K, Fear N, Hotopf M, Wessely S. Consent, confidentiality, and the Data Protection Act. BMJ. 2006;332:165–169.
15. Smith TC, Ryan MA, Wingard DL, Slymen DJ, Sallis JF, Kritz-Silverstain D, et al. New onset and persistent symptoms of post-traumatic stress disorder self reported after deployment and combat exposures: prospective population based US military cohort study. BMJ. 2008;336:366–371.
16. Berkman LF, Glass T, Brissette I, Seeman TE. From social integration to health: Durkheim in the new millennium. Soc Sci Med. 2000;51:843–857.
17. Goldberg D, Williams P. A user's guide to the General Health Questionnaire. Windsor: Nfer-Nelson; 1988.
18. Goldberg DP, Gater R, Sartorius N, Ustun TB, Piccinelli M, Gureje O, et al. The validity of two versions of the GHQ in the WHO study of mental illness in general health care. Psychol Med. 1997;27:191–197.
19. Goldberg DP, Oldehinkel T, Ormel J. Why GHQ threshold varies from one place to another. Psychol Med. 1998;28:915–921.
20. Weathers F, Litz B, Herman D, Huska J, Keane T. The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility. Paper presented at the Annual Convention of the International Society for Traumatic Stress Studies, San Antonio, TX; 1993.
21. Babor TF, Higgens-Biddle JC, Saunders JB, Monteiro MG. AUDIT. The Alcohol Use Disorders Identification Test. Geneva: Department of Mental Health and Substance Dependence, WHO; 2001.
22. StataCorp. Stata statistical software: release 10.1. College Station, TX: Stata Corporation; 2008.
23. Lomsky-Feder E, Gazit N, Ben-Ari E. Reserve soldiers as transmigrants. Moving between the civilian and military worlds. Armed Forces and Society. 2008;34:593–614.
24. Griffith J. Being a Reserve soldier: a matter of social identity. Armed Forces and Society. 2009;36:38–64.
25. Durkheim E. Le Suicide. Paris: Alcan; 1897.
26. House JS, Landis KR, Umberson D. Social relationships and health. Science. 1988;241:540–545.
27. Johnson H, Thompson A. The development and maintenance of posttraumatic stress disorder (PTSD) in civilian adult survivors of war trauma and torture: a review. Clin Psychol Rev. 2008;28:36–47.
28. Brewin CR, Andrews B, Valentine JD. Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. J Consult Clin Psychol. 2000;68:748–766.
29. Basoglu M, Paker M, Paker O, Ozmen E, Marks I, Incesu C, et al. Psychological effects of torture: a comparison of tortured with nontortured political activists in Turkey. Am J Psychiatry. 1994;151:76–81.
30. de Jong JT, Komproe IH, Van Ommeren M, El Masri M, Araya M, et al. Lifetime events and posttraumatic stress disorder in 4 postconflict settings. JAMA. 2001;286:555–562.
31. Silove D, Sinnerbrink I, Field A, Manicavasagar V, Steel Z. Anxiety, depression and PTSD in asylum-seekers: associations with pre-migration trauma and post-migration stressors. Br J Psychiatry. 1997;170:351–357.
32. Green BL, Grace MC, Lindy JD, Gleser GC, Leonard A. Risk factors for PTSD and other diagnoses in a general sample of Vietnam veterans. Am J Psychiatry. 1990;147:729–733.
33. Pietrzak RH, Johnson DC, Goldstein MB, Malley JC, Southwick SM. Psychological resilience and postdeployment social support project against traumatic stress and depressive symptoms in soldiers returning from Operations Enduring Freedom and Iraqi Freedom. J Spec Oper Med. 2009;9:67–73.
34. Miller KE, Rasmussen A. War exposure, daily stressors, and mental health in conflict and post-conflict settings: bridging the divide between trauma-focused and psychosocial frameworks. Soc Sci Med;70:7–16.
35. Harvey SB, Henderson M. Occupational psychiatry. Psychiatry. 2009;8:174–178.
36. Harvey SB, Henderson M, Lelliott P, Hotopf M. Mental health and employment: much work still to be done. Br J Psychiatry. 2009;194:201–203.