

Risk-taking behaviours among UK military reservists

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Background	Deploying in a combat role negatively impacts risk-taking behaviours, such as drinking, smoking and risky driving in regular UK military personnel. Little is known about the impact of deployment on the risk-taking behaviours of reservists.
Aims	To explore the impact of deployment on risk-taking behaviours among reservists.
Methods	This was a cross-sectional study. Hazardous drinking, risky driving, physical violence, smoking and attendance at accident and emergency (A&E) departments as a result of risk-taking behaviours were assessed by self-reported questionnaire.
Results	There were 1710 participants in the study; response rate 51%. The overall prevalence of risk-taking behaviours was: hazardous drinking 46%, smoking 18%, risky driving 11%, attending A&E due to risky behaviours 13% and reporting physical violence 3%. Deployment was significantly associated with risky driving [odds ratio (OR) 1.88, 95% confidence interval (CI) 1.25–2.81], smoking (OR 2.02, 95% CI 1.46–2.78) and physical violence (OR 3.63, 95% CI 1.88–7.02).
Conclusions	It is important to consider the impact of deployment and military factors on the prevalence of risk-taking behaviours in reservists as greater numbers than ever before will face the prospect of deployment to overseas conflicts.
Key words	Alcohol; deployment; driving; reservists; risk-taking behaviour; physical violence; smoking; UK military.

Introduction

The UK Reserve Forces consist of 36 000 volunteers, who have mobilized in substantial numbers on combat operations in Iraq and Afghanistan [1]. Deploying in a combat role is associated with risk-taking behaviours such as hazardous drinking, smoking and risky driving in regulars [2–4]. Little is known about risk-taking behaviours of reservists. Given the imminent re-organization of UK's military with trained reservists numbers to be doubled [5], this study aimed to investigate the prevalence of risk-taking behaviours among reservists and change with deployment status.

Methods

The data used in this study were collected as part of the follow-up phase of a longitudinal cohort study of UK

Armed Forces. Those who could not be followed-up were excluded and two additional samples [6] (those who deployed to Afghanistan and a replenishment sample of those who joined the military after the first phase of the cohort) were included. Data collection began on 21 November 2007 and ended on 30 September 2009. Data were collected through various strategies; including visits to over 100 military units located at bases across the UK, Germany and Cyprus [6]. Participants were identified by the Ministry of Defence's (MoD) Defence Statistics agency. Questionnaires were sent to the home addresses of military personnel identified by Defence Statistics. Regular updates on deaths were provided by Defence Statistics in order to avoid causing distress to families. The questionnaire consisted of seven sections: (i) demographics; (ii) service information (including information on those no longer serving, current or last rank and

details of previous deployments); (iii) experiences before deployment (including expectations and receipt of vaccinations); (iv) experiences on deployment (including duty, potentially traumatic experiences and morale); (v) experiences after deployment; (vi) information on current health and (vii) background information, including past medical history and adversity in early life. The study received ethical approval from the MOD's research ethics committee and the King's College Hospital local research ethics committee (Figure 1).

Percentages of risk-taking behaviours overall and by deployment are presented. A Pearson's chi-squared test was conducted to examine the likelihood of any observed differences occurring by chance. For those deployed, the difference in prevalence by role during deployment was examined. To investigate the associations between deployment status, role during deployment and risk-taking behaviours, unadjusted logistic regression was undertaken, odds ratios (OR) and 95% confidence intervals (CI) are presented. Sample weights were generated to account for sampling strategies. Response weights were also generated to account for non-response. All analyses were performed using the statistical software package Stata (version 11.2), taking account of survey commands.

Results

The overall study population consisted of 17 812 participants. A total of 3345 (19%) of these were reservists of whom 1710 provided data (response rate 51%), 82% of whom were male and 18% were female, 25% were officers, 49% were non-commissioned officers and 26% held lower ranks. Seventy-one per cent of the sample had not deployed to either Iraq or Afghanistan while 29% had deployed at phase 2. Of the 500 reservists who deployed to Iraq/Afghanistan, 62% deployed in a support role and

38% deployed in a combat role at phase 2. The analyses for risky driving were restricted to drivers only ($n = 1611$).

The overall prevalence of risk-taking behaviours was hazardous drinking 46%, smoking 18%, risky driving 11%, attending A&E due to risky behaviours 13% and reporting physical violence 3% (Table 1). Table 1 also shows prevalence by deployment status, rank and service.

Deployment was significantly associated with risky driving (OR 1.88, 95% CI 1.25–2.81), smoking (OR 2.02, 95% CI 1.46–2.78) and physical violence (OR 3.63, 95% CI 1.88–7.02). Those who deployed in a combat role were more likely to report hazardous drinking (57.3%): OR 1.81, 95% CI 1.14–2.95 and physical violence (8.8%): OR 3.02, 95% CI 1.05–8.73, compared with those deployed in a non-combat role (data not shown but available from the authors).

Discussion

The overall prevalence of risk-taking behaviours was hazardous drinking 46%, smoking 18%, risky driving 11%, attending A&E due to risky behaviours 13% and reporting physical violence 3%. The risk-taking behaviours among reservists mirrored those of regulars, though the prevalence was lower amongst the reservists. Deployed regulars were more likely to engage in risky driving (19%) and perpetrating physical violence (11%) [2,7]. There was an association between deployment and smoking. An increase in smoking and new-onset smoking has previously been attributed to operational factors such as boredom, social factors and stress by a sample of deployed UK military medical personnel [8]. As with regulars, an association between combat role and physical violence [7] and combat role and hazardous drinking was seen in reservists. Reporting pre-enlistment anti-social behaviour is known to be associated with risk-taking behaviours, hazardous drinking and physical violence in regulars. Moreover, violent offending in regulars is also associated with post-deployment alcohol misuse [7].

This study is the first to identify the prevalence of risk-taking behaviours in a large sample of UK reservists. It is limited in that the risk-taking behaviours were examined at a single point in time; therefore, the direction of causality of the associations cannot be ascertained. This was a cross-sectional analysis; as such the confounding effect of socio-demographic factors and previous anti-social and violent behaviour has not been accounted for in this study due to small numbers and lack of statistical power. The self-reported behaviours on which this study relied are susceptible to social desirability bias. Therefore, the true levels of risk-taking behaviours in reservists may be higher.

Research in the civilian population shows that personality traits, such as impulsivity, are related to risky driving [9]. Therefore, we must consider the personality traits, which may influence risk-taking behaviours, of those enlisting as volunteer reservists in the UK military.

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| <ul style="list-style-type: none"> i. Risky driving: sometimes, seldom, or never wearing a seatbelt; or driving more than 10 miles per hour (mph) above the national speed limit (10 mph is equivalent to 16 kilometres per hour (kph)) in a built-up area, or more than 20 mph above the limit on a motorway (20 mph is equivalent to 32 kph) (1). ii. Smoking status: a binary variable defined as current smoker vs. non-smoker. iii. Hazardous drinking: having a score of 8+ on the WHO's Alcohol Use Disorders Identification Test (4). iv. Physical violence: reporting a fight with someone and hitting the person or threatening someone with physical violence. v. A&E attendance as a result of risky behaviour: attending A&E due to a Road Traffic Accident (RTA), sport/leisure injury, injury due to fight/assault or drink related injury. |
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Figure 1. The risk-taking behaviours.

Table 1. Prevalence of risk-taking behaviours among reservists at phase 2 by deployment, rank and service status

Full sample (<i>n</i> = 1710)	Hazardous drinking (overall prevalence 46%), <i>n</i> (%)		Risky driving (overall prevalence 11%), <i>n</i> (%)		Smoking (overall prevalence 18%), <i>n</i> (%)		A&E attendance as a result of risk-taking behaviours (overall prevalence 13%), <i>n</i> (%)		Physical violence (overall prevalence 3%), <i>n</i> (%)		
	<i>n</i> (%)	Not a case	Hazardous drinking (AUDIT 8+)	Not a risky driver	Risky driver	Not a smoker	Current smoker	No	Yes	No	Yes
Deployment status											
Deployed to Iraq/ Afghanistan	500 (29)	262 (51)	238 (49)	396 (83)*	62 (17)*	377 (74)***	116 (26)***	424 (86)	76 (14)	395 (93)***	26 (7)***
Non-deployed	1210 (71)	662 (56)	548 (44)	1024 (90)*	121 (10)*	1006 (85)***	198 (15)***	1069 (89)	141 (11)	1085 (98)***	25 (2)***
Rank											
Officer	427 (25)	263 (62)*	164 (38)*	380 (9)	34 (9)	381 (91)***	45 (9)***	385 (92)*	42 (8)*	412 (100)**	1 (<1)**
Non-commissioned Officer	844 (49)	449 (53)*	395 (47)*	710 (88)	102 (12)	655 (78)***	181 (22)***	740 (89)*	104 (11)*	717 (97)***	25 (3)***
Other ranks	439 (26)	212 (49)*	227 (51)*	330 (88)	47 (12)	347 (82)***	88 (81)***	368 (84)*	71 (16)*	351 (93)***	25 (7)***
Service											
Royal Navy	119 (7)	65 (55)*	54 (45)*	104 (90)	9 (10)	108 (92)*	11 (8)*	106 (89)	13 (11)	111 (99)	1 (1)
Royal Marines	40 (2)	14 (35)*	26 (65)*	30 (81)	9 (19)	32 (8281)*	8 (18)*	32 (84)	8 (16)	30 (94)	3 (6)
Army	1354 (79)	719 (53)*	635 (47)*	1112 (88)	145 (12)	1081 (81)*	261 (19)*	1169 (87)	185 (13)	1155 (96)	44 (4)
Royal Air Force	197 (12)	126 (66)*	71 (34)*	174 (91)	20 (9)	162 (85)*	34 (15)*	186 (94)	11 (6)	184 (98)	3 (2)

All percentages have been rounded to the nearest whole number. *n* = number %. Bold *n* (%) are significant *P* < 0.05 Pearson's Chi-square test.

P* < 0.05, *P* < 0.01, ****P* < 0.001.

Recent evidence has shown that individuals signing up for the Reserve Officers Training Corps were more likely to be thrill seekers, adventure seeking, more impulsive and more individuated [10].

The risk-taking behaviours of reservists mirrored those of regulars. As for regulars, deployment was associated with post-deployment hazardous drinking and risky driving. Deployment in a combat role was associated with post-deployment physical violence. The proposed re-structuring of the UK military envisages greater use of reservists in future operations [5]. Research has already shown that reservists are vulnerable to the mental health impact of deployment [1]. Therefore, it is important to consider the impact of deployment factors on the prevalence of risk-taking behaviours in reservists as greater numbers than ever before face the prospect of deploying to overseas conflicts.

Key points

- The overall prevalence of risk-taking behaviours in these reservists was hazardous drinking 46%, smoking 18%, risky driving 11%, attending accident and emergency due to risky behaviours 13% and reporting physical violence 3%.
- Deployment was significantly associated with risky driving (OR 1.88, 95% CI 1.25–2.81), smoking (OR 2.02, 95% CI 1.46–2.78) and physical violence (OR 3.63, 95% CI 1.88–7.02).
- It is vital to consider the impact of deployment on the prevalence of risk-taking behaviours in reservists as greater numbers than ever before will face the prospect of deployment to overseas conflicts.

Conflicts of interest

N.J. is a full-time member of the reserves (part of the UK Armed Forces) and is currently seconded to King's College London. G.T., J.S., C.D., N.T.F. and S.W. are/were employed by King's College London, which receives funding from the UK Ministry of Defence. S.W. is also an honorary civilian consultant adviser in psychiatry to the British Army and a trustee of Combat Stress, a UK charity that provides service and support for veterans with mental health problems.

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