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The Psychological Health of Contractors Working in War Zones

Anthony Feinstein
Department of Psychiatry, University of Toronto and Department of Psychiatry, Sunnybrook Health Sciences Centre, Toronto, Ontario

Maggie Botes
International Contractors Association, Pretoria, South Africa

This study examines the psychological health of contractors working in war zones. Seventy-nine contractors completed an Internet-based psychiatric assessment. The sample was exclusively male with a mean age of 43 (SD = 7) years. The number of contractors whose scores exceeded the cutoff points for depression, psychological distress, and excessive weekly alcohol consumption were 15 (20%), 21 (28%), and 13 (17%), respectively. A third of contractors had posttraumatic stress disorder (PTSD) scores in the moderate to severe range. Approximately 10% of contractors had employer-organized access to psychological help following deployment. This study provides the first empirical data showing that a significant minority of contractors working in war zones are psychologically distressed and not receiving therapy.

It is estimated that up to 126,000 contractors are working in Iraq. The dangers they confront are stark—unofficial estimates put their death toll at a little over 1,000, with nearly 13,000 injured in the past 6 years (Risen, 2007). Given that approximately 13% of soldiers returning from Iraq are thought to suffer from posttraumatic stress disorder (PTSD; Hoge et al., 2004), it is likely that many contractors will also be experiencing combat-related mental health problems. No study has, however examined this question.

METHOD

An organization, International Contractors Association (ICA) was approached to assist in subject recruitment. The ICA offers a "cyber home" to all civilian contractors working in the security industry across the globe.

A Web site was established allowing all subjects to complete the study online. This made it possible to collect data from subjects working in geographically scattered regions. Sample selection was restricted to those ICA members who were employed (490 of 824 members).

The study collected several types of information. First, demographic and career details were obtained. The latter included whether an employer provided pre- and postdeployment support and the availability of psychological help while on deployment. Second, participants completed the Trauma History Questionnaire (THQ; Green, 1996), which documented the number of times contractors had been exposed to potentially traumatic situations over the course of their lifetime. Third, the Impact of Events Scale-Revised (IES-R; Weiss & Marmar, 1996) provided an index of PTSD. Participants were asked to indicate symptoms that occurred during the past 7 days only and were related to traumatic events experienced at work. Five possible responses for each question (*not at all, a little bit, moderately, quite a bit,* and *extremely*) were scored 0, 1, 2, 3, 4, respectively. Although there are no specified cutoff points for the IES-R, anchor points based on mean scores (i.e., the mean divided by the number of questions) may be used in interpreting the data. Fourth, the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used to measure depression. A cutoff score of greater than 16 was taken to denote depression, according to convention. Fifth, the 28-item General Health Questionnaire (GHQ; Goldberg & Hillier, 1979) provided an index of overall psychological distress. A total GHQ score greater or equal to 5 is considered indicative of psychological distress. Finally, drinking habits were ascertained by asking participants how many glasses of wine, bottles of beer, and shots of spirits they drank weekly. Each drink was regarded as a unit and summed to give a total weekly intake. Scores above 14 units per week in men are considered excessive (Bondy, Ashley, Rehm, & Walsh, 1999). Most corporations forbid contractors to

Correspondence concerning this article should be addressed to: Anthony Feinstein, Sunnybrook Health Sciences Centre, 2075 Bayview Avenue, Room FG08, Toronto, ON M4N 3M5, Canada. E-mail: ant.feinstein@utoronto.ca.

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Table 1. Psychological Resources Provided by Employers to contractors ($N = 79$)

Psychological resources by time		*n*	%
Predeployment	Psychological screening	26	32.9
	Job training	36	45.6
	Psychological component to the job training	10	12.7
During deployment	Psychological support provided in the zone of conflict	28	35.4
	Psychological help provided back home	35	44.3
Postdeployment	Psychological support	9	11.4
	Psychological screening for disorders like PTSD, major depression	7	8.9

Note. PTSD = Posttraumatic stress disorder.

drink alcohol while on contract. A few companies allow drinking between 5:00 and 8:00 p.m. on employees' days off.

The ethics committee affiliated to the University of Toronto approved the study.

RESULTS

All 79 contractors who answered the questionnaires were men. Their mean age was 43 ($SD = 7$) years. Forty-five (57%) were single, 29 (36.7%) were married, and 5 (6.3%) were divorced. Thirty (38%) contractors had completed school, 36 (46%) had gone to college, and 13 (17%) had attended university. The contractors had been working in zones of conflict for an average of 3.5 ($SD = 2.6$) years. They spent on average 7.3 ($SD = 2.5$) months a year away from home. All the contractors were involved in security work. Prior to working as a contractor 44 (56%) had been in the military, 26 (33%) had been in the police force, and 9 (11%) had been security officers.

Fifty contractors (63%) completed the study while working in a conflict zone. The current wars in Iraq and Afghanistan were rated the most dangerous deployment by 54 (68%) and 5 (6%) contractors, respectively. Details of the provision of support services made available by employers are shown in Table 1.

The mean total scores for PTSD symptoms (IES-R), depression (CES-D), overall psychological distress (GHQ-28), weekly alcohol consumption, and lifetime trauma exposure (THQ) are shown in Table 2. These scores did not differ according to the type of prior employment. The number of contractors whose scores exceeded the cutoff points for depression, psychological distress, and excessive weekly alcohol consumption were 15 (20%), 21 (28%), and 13 (17%), respectively. A breakdown of PTSD scores is shown in Table 3.

Table 3. PTSD Symptoms According to the Impact of Event Scale-Revised ($N = 74$)

	None		A little		Moderate		Quote a bit	
Variable	*n*	%	*n*	%	*n*	%	*n*	%
Intrusion	8	10.8	43	58.1	18	24.3	5	6.8
Avoidance	13	17.6	33	44.6	22	29.7	6	8.1
Arousal	12	16.2	35	47.3	24	32.4	3	4.1

Note. PTSD = Posttraumatic stress disorder.

Significant correlations were present between the total IES-R scores and the CES-D ($r = .73$; $p < .001$) and total GHQ ($r = .71$; $p < .001$) scores. A significant correlation was also present between the CES-D and total GHQ ($r = .81$; $p < .001$) scores. None of the above variables correlated significantly with total weekly alcohol consumption or with the overall score obtained from the THQ. Weekly alcohol consumption did not correlate significantly with frequency of exposure to trauma.

Table 2. Means on Study Measures

Variable	*M*	*SD*	*Mdn*	Range	*n*
Center for Epidemiologic Studies Depression Scale	11.1	9.3	8.0	0–44	74
Impact of Event Scale: Total score	16.9	13.1	16.0	0–52	74
Impact of Event Scale: Intrusion score	6.0	5.0	5.0	0–19	74
Impact of Event Scale: Avoidance score	6.4	5.5	5.5	0–23	74
Impact of Event Scale: Arousal score	4.6	4.1	3.5	0–16	74
General Health Questionnaire total score	3.8	5.5	1.0	0–22	75
Consumption of alcohol (units per week)	5.7	7.1	3.0	0–3	74
Trauma History Questionnaire	44	25	44	1–94	74

DISCUSSION

Data were collected on a group of 79 contractors working in war zones. All worked in the security field. The majority was based in Iraq and completed the study during deployment. Before discussing the significance of the psychometric results, however, some comment is needed on our sample selection. Recruitment represented a major logistical hurdle. Of the 490 potential participants, 112 (22.9%) had e-mail addresses that were either out of date or contained errors. Of the remaining 378 contractors, 132 (34.9%) could be reached via e-mail. Twenty-five contractors refused to participate and of the 107 who agreed only 79 actually participated. Thus, in trying to determine the percentage response rate, various possibilities present themselves. We could assume that the 246 contractors who never replied to the e-mail solicitation (378–132) did not receive it. In that case, the response rate of 79 participants, 25 clear refusals and 28 contractors who agreed to take part but never did, represents a 60% enrollment rate. Alternatively, we could assume that the 246 contractors who never responded to the e-mail solicitation were signaling their refusal by remaining silent. With this assumption, our enrollment rate drops to 79 of 378 or 20.1%. We have no way of knowing what the case was. Faced with this uncertainty, it seems prudent to take a conservative approach and state our conclusions should be viewed with caution.

It is also important to acknowledge that recruiting a sample of contractors is no simple task. This point is underscored by the fact that 7 years into a war in Afghanistan and 5 years into a war in Iraq, no empirical data have been published on this topic.

Demographic inquiry revealed the sample was male and middle-aged. Almost two thirds were single or divorced. They spend more than half the year away from home exposed to extraordinary levels of violence. The average number of traumatic events confronted by this group is double that reported by front-line journalists (Feinstein & Nicolson, 2005). Yet despite the magnitude of the risks confronted, the provision of psychological help before, during, and particularly after, deployment is notably lacking.

These deficiencies take on added salience when viewed alongside the psychological data. Twenty percent of contractors scored above the cutoff point denoting clinically significant depression on the CES-D. A similar situation pertains to PTSD with a third of the sample showing at least moderately severe symptoms. Of note is that depression and PTSD scores did not differ according to where the contractor completed the study. Thus, levels of psychopathology do not decline when contractors return home, at least in the first few months, a situation that is largely being ignored by employers as the postdeployment data make clear.

The absence of published empirical data relating to contractors means that one has to look to other groups for comparison. A number of studies have investigated psychological problems in soldiers who have served abroad in war zones. In a widely cited report, mental health problems were reported by 19.1% and 11.3% of U.S. service members returning from Iraq and Afghanistan, respectively (Hoge, Auchterlonie, & Milliken, 2006). Studies of British (Iversen et al., 2008) and Dutch (Engelhard et al., 2007) military personnel give more modest estimates.

Direct comparisons between these data and those obtained from our sample of contractors should, however, be viewed cautiously. First, the contractors were all men and older than the average soldier. Gender and age may influence PTSD, depression, and psychological distress scores (Bruce et al., 2001; Ford, Adams, & Dailey, 2007). Second, although contractors and soldiers may share an exposure to grave danger, the resources and support they are provided with to deal with these challenges differ considerably, as our study reveals. Third, all the contractors had previously been employed in the military, police, or prisons services and would therefore have been exposed to violence and traumatic events even before they arrived in Iraq or elsewhere. How these earlier events may have affected the current psychometric data is unclear.

Our finding of a close association between symptoms of PTSD and depression fits with earlier studies highlighting this comorbidity (Bleich, Koslowsky, Dolev, & Lrer, 1997). Our failure to report a similar comorbidity with substance abuse simply may be a product of our sample selection. The terms of employment for contractors in war zones includes a prohibition on drug use. This is enforced by random testing and may explain why not a single contractor endorsed any kind of illicit drug use. Similar restrictions apply to the use of alcohol while on active duty. Our alcohol data are therefore a reflection of this tight degree of control, and the 13 subjects who drink to excess constitute too small a subgroup to allow for meaningful statistical comparisons. The nature of a contractor's experience may also explain the absence of a significant correlation between PTSD and THQ scores. There are simply too few contractors with low frequency trauma exposure to allow for meaningful correlation analyses.

An additional drawback to our study was the absence of structured clinical interviews. Reliance on subjective responses meant that diagnoses according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*; American Psychiatric Association, 1994) could not be made. Taken together with the modest sample size, these limitations beg the question whether an Internet-based approach is the method of choice for studying contractors. Nevertheless, it is informative to note that the figure of approximately a third of contractors with moderate to severe PTSD symptoms exceeds the anecdotal figure of 24% reported in the lay press for DynCorp International (a contractor company based in Falls Church, VA) police trainers after deployment to Iraq (Risen, 2007). Few details of this survey are known.

In conclusion, we present preliminary data suggesting that a significant minority of contractors working in conflict zones, particularly Iraq, are experiencing psychological problems. These data also confirm that little is in place predeployment to educate contractors on the psychological risks they will face. Furthermore, very few contractors returning from a war zone will receive psychological help. These are stark figures and point to the magnitude of

the problems faced by contractors and by association, the organizations that employ them.

REFERENCES

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.

Bleich, A., Koslowsky, M., Dolev, A., & Lrer, B. (1997). Posttraumatic stress disorder and depression: An analysis of comorbidity. British Journal of Psychiatry, 170, 479–482.

Bondy, S., Ashley, M. J., Rehm, J. T., & Walsh, G. (1999). Low risk drinking guidelines: The scientific evidence. Canadian Journal of Public Health, 90, 272–276.

Bruce, S. E., Weisberg, R. B., Dolan, R. T., Machan, J. T., Kessler, R. C., Manchester, G., et al. (2001). Trauma and posttraumatic stress disorder in primary care patients. Primary Care Companion Journal of Clinical Psychiatry, 3, 211–217.

Engelhard, I. M., van den Hout, M. A., Weerts, J., Arntz, A., Hox, J. J., & McNally, R. J. (2007). Deployment-related stress and trauma in Dutch soldiers returning from Iraq. Prospective study. British Journal of Psychiatry, 191, 140–145.

Feinstein, A., & Nicolson, D. (2005). Embedded journalists in the Iraq war: Are they at greater psychological risk? Journal of Traumatic Stress, 18, 129–132.

Ford, J. D., Adams, M. L., & Dailey, W. F. (2007). Psychological and health problems in a geographically proximate population time-sampled continuously for three months after the September 11th, 2001 terrorist incidents. Anxiety, Stress & Coping, 20, 129–46.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. Psychological Medicine, 9, 139–145.

Green, B. L. (1996). Trauma History Questionnaire. In B. H. Stamm (Ed.), Measurement of stress, trauma and adaptation (pp. 366–368). Lutherville, MD: Sidran Press.

Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems and barriers to care. N. Engl. J. Med., 351, 13–22.

Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. Journal of the American Medical Association, 295, 1023–1032.

Iversen, A. C., Fear, N. T., Ehlers, A., Hacker Hughes, J., Hull, L., Earnshaw, M., et al. (2008). Risk factors for posttraumatic stress disorder among UK armed forces personnel. Psychological Medicine, 38, 511–522.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement, 1, 385–401.

Risen, J. (2007, July 5). Contractors back from Iraq suffer trauma from battle. The New York Times.

Weiss, D., & Marmar, C. R. (1996). The Impact of Event Scale-Revised. In J. P. Wilson & T. M. Keane (Eds.), Assessing psychological trauma and PTSD: A practitioner's handbook (pp. 399–411). New York: Guilford Press.