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Experience of human rights violations and subsequent mental disorders – A study following the war in the Balkans

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ABSTRACT

War experiences are associated with substantially increased rates of mental disorders, particularly Post-Traumatic Stress Disorder (PTSD) and Major Depression (MD). There is limited evidence on what type of war experiences have particularly strong associations with subsequent mental disorders. Our objective was to investigate the association of violations of human rights, as indicated in the 4th Geneva Convention, and other stressful war experiences with rates of PTSD and MD and symptom levels of intrusion, avoidance and hyperarousal. In 2005/6, human rights violations and other war experiences, PTSD, post-traumatic stress symptoms and MD were assessed in war affected community samples in five Balkan countries (Bosnia-Herzegovina, Croatia, Kosovo, Macedonia, and Serbia) and refugees in three Western European countries (Germany, Italy, United Kingdom). The main outcome measures were the MINI International Neuropsychiatric Interview and the Impact of Event Scale-Revised. In total 3313 participants in the Balkans and 854 refugees were assessed. Participants reported on average 2.3 rights violations and 2.3 other stressful war experiences. 22.8% of the participants were diagnosed with current PTSD and also 22.8% had MD. Most war experiences significantly increased the risk for both PTSD and MD. When the number of rights violations and other stressful experiences were considered in one model, both were significantly associated with higher risks for PTSD and were significantly associated with higher levels of intrusion, avoidance and hyperarousal. However, only the number of violations, and not of other stressful experiences, significantly increased the risk for MD. We conclude that different types of war experiences are associated with increased prevalence rates of PTSD and MD more than 5 years later. As compared to other stressful experiences, the experience of human rights violations similarly increases the risk of PTSD, but appears more important for MD.

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Introduction

Over the past 25 years, about half of all countries in the world have been affected by wars (Marshall & Cole, 2009). In 2009, 20 countries were involved in warfare affecting several million people,

most of whom are civilians (Ahlstrom, 1991; ICRC, 2010). While the impact of war experiences on mental disorders is difficult to demonstrate in experimental studies, numerous observational studies have suggested that the experience of war is associated with increased rates of subsequent mental disorders. A range of different disorders have been suggested to occur following war. The most consistently found and most frequent ones are Post Traumatic Stress Disorder (PTSD) and Major Depression (MD) (De Jong, Komproe, & van Ommeren, 2003; Scholte et al., 2004; Vinck, Pham, Stover, &

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Weinstein, 2007). Substantially increased prevalence rates of these disorders have been found in war affected samples even many years after the war (Basoglu et al., 2005; Bramsen & van der Ploeg, 1999; Marshall, Schell, Elliott, Berthold, & Chun, 2005).

The war in the Balkans was a series of violent conflicts in the territory of the former Yugoslavia that took place between 1991 and 2001 (Nation, 2003). Previous studies showed that community samples affected by the war in the former Yugoslavia experienced a wide range of traumatic events, including witnessing the bombing of their towns; participating in active combat; being imprisoned; having experienced the destruction of their homes; having suffered lack of food and water; having witnessed killings or atrocities; being wounded or beaten during forced evacuation from their towns; suffering rape; losing relatives and friends (Arcel, Popovic, Kucukalic, & Bravo-Mehmedbasic, 2003; Arcel & Simunkovic-Tocilj, 1998; Favaro, Maiorani, Colombo, & Santonastaso, 1999). Most of those affected had been exposed to multiple stressful war experiences. Community studies in this population have reported an association between war experience and raised levels of mental disorders several years later (Basoglu et al., 2005; Klaric, Klaric, Stevanovic, Grkovic, & Jonovska, 2007). These studies have found prevalence rates of PTSD between 16% and 34% and MD between 9% and 32% (Basoglu et al., 2005; Klaric et al., 2007; Mollica et al., 2001; Morina & Ford, 2008).

As noted above, war can be associated with very different types of stressful and potentially traumatic experiences. There is limited evidence on what experiences have particularly strong associations with increased rates of mental disorders. Existing studies suggest that a range of experiences, including confinement in concentration camps (Dahl, Mutapcic, & Schei, 1998; Hinton et al., 1998; Scholte et al., 2004), torture (Basoglu et al., 2005; Dahl et al., 1998; De Jong et al., 2001; Jaranson et al., 2004; Scholte et al., 2004; Shrestha et al., 1998; Silove, Steel, McGorry, Miles, & Drobny, 2002; Steel et al., 2009), being kidnapped (Scholte et al., 2004), and loss of loved ones (Blair, 2000) are more likely to lead to PTSD and MD than are other general war experiences. In a recent meta-analysis of surveys on war-affected populations, torture emerged as the strongest factor associated with PTSD and was also associated with depression (Steel et al., 2009).

Human rights (HR or referred to simply as rights) are defined on humanistic grounds and are an ethical and legal concept. A wide international consensus on what constitutes human rights is reflected in the Geneva Convention. The protection of rights is problematic during war, especially for civilians (Pejic, 2005), and the question arises as to whether the concept of human rights may also be significant for understanding the mental health sequelae of war experiences. War is always likely to lead to a range of stressful events, but what is the psychological impact of experiencing rights violations in a war context? One might assume that experiences of violations in the form of personal assaults on welfare, dignity, or life, and the deprivation of basic needs, carried out by identifiable individuals or groups, would be more hurtful and shatter trust in human relationships even more than other traumatic war experiences. Such violations may therefore have a particularly strong association with subsequently increased prevalence rates of mental disorders.

In this paper, we investigated how the experience of human rights violations in war is associated with subsequent prevalence rates of PTSD and MD, and compared the associations with those of other stressful war experiences. The classification of experiences was guided by the International Humanitarian Law, using the fourth Geneva Convention as an index of types of rights violations arising in war (not aiming at a legal classification) (Cassese, 2008; Dinstein, 2004, 2009; Henckaerts & Doswald-Beck, 2005; Pejic, 2005). The fourth Geneva Convention of International Humanitarian Law relative to the Protection of Civilian Persons in Time of War was

published in 1949, one year after the Human Rights Declaration of the United Nations. It defines rules and principles that apply in times of war and seek to protect people who are not or are no longer taking part in hostilities (ICRC, 2009).

The study was conducted in a sample of people who had survived the war in the Balkans and were assessed more than five years later. The sample included people who had stayed in the area of conflict and others who had taken refuge in Western European countries. The study was conducted in five Balkan countries, i.e. Bosnia-Herzegovina, Croatia, Kosovo (which was a province of Serbia at the time), Macedonia (Former Yugoslav Republic of Macedonia), and Serbia, and in Germany, Italy and the United Kingdom as the three Western European countries with the highest number of immigrants at the time of the war (Eurostat, 2004).

Methods

Sampling techniques and participants

The study was conducted as a multi-centre epidemiological survey in eight countries. The rationale and methods have been described in detail elsewhere (Morina et al., 2010; Priebe et al., 2010, 2004).

Participants in the five Balkan countries were recruited using a multi-stage probabilistic sampling frame and random walk approach in administrative regions that had been directly exposed to war activities. Since such methods were not feasible in Western European countries, participants in these countries were identified through data registers, community organisations and snowballing.

Participants were included if they had been born within the territory of former Yugoslavia; were between 18 and 65 years old; had experienced at least one war-related potentially stressful event (to ensure that all participants had in fact been affected by war); had no severe learning difficulty and no mental impairment due to a brain injury or other organic cause. Participants were excluded if they had experienced the last war-related event before completing 16 years of age. Since the conflicts in the Balkans lasted no longer than four years, study participants were at least 12 years old at the time of the first war experience.

The cutoff age of 12 was selected based on the evidence that the development of PTSD and other trauma-related sequelae tend to follow different paths among children and adolescents or young adults (De Jong et al., 2001; Maercker, Michael, Fehm, Becker, & Margraf, 2004; Perkonig, Kessler, Storz, & Wittchen, 2000), and our study focused on the experience of traumatic events in adulthood and not childhood.

Procedures and measures

All interviews were carried out face-to-face between January 2005 and November 2006. According to participants' preferences, interviews were conducted either at their homes, community organisations or on the premises of the study research centres.

Potentially traumatic experiences during war were assessed on an adapted 24 item version of the Life Stressor Checklist-Revised (LSC-R) (Mollica et al., 1992; Wolfe & Kimerling, 1997). The item 'natural disaster' was dropped because of the lack of connection with war. Out of the remaining 23 items, 12 were classified as assaults on welfare, dignity, or life directed at the person concerned or a confined group and carried out by identifiable individuals or groups and thus reflecting human rights violations guided by the Geneva Convention (mainly Article 3). They were: sexual assault by a known person (explicitly listed in Article 27); non-sexual assault by a known person (Art. 32); sexual assault by a stranger (Art. 27); non-sexual assault by a stranger (Art. 32);

imprisonment (which usually reflected imprisonment in a concentration camp without any trial or entitlements as prisoner of war); ill without access to medical care; lack of food or water (Art. 15); lack of shelter; expelled from home under threat; siege (Art. 35); torture (Art. 32); and being kidnapped (Art. 34). The other experiences were: serious accident, fire or explosion; life threatening illness; sudden death of a dear person due to natural causes; combat; shelling or bombardment; mine explosion; serious injury; witnessed murder or death; learned about murder or violent death of a dear person; disappearance or kidnapping of a dear person; and being lost. The second group of experiences was regarded as not necessarily representing violations of the rights of the interviewee. For each experience, the time since the most stressful occurrence was recorded and participants rated the distress experienced at the time, for each type of experience on a scale from 0 to 4 (4 = most distressing). The numbers of potentially traumatic experiences before and after the war were assessed using the same list.

Current PTSD and MD were established as part of a comprehensive assessment of mental disorders (Priebe et al., 2010) using the Mini International Neuropsychiatric Interview (MINI), a structured and validated diagnostic interview (Sheehan et al., 1997), assessing the symptom criteria used in the Diagnostic and Statistical Manual of Mental Disorders IV (American Psychiatric Association, 1994). The instrument has been found to be valid and reliable when measured against the longer Composite International Diagnostic Interview (CIDI) and the Structured Clinical Interview for DSM-III-R Patients (SCID-P) (Lecrubier et al., 1997; Sheehan et al., 1997). It has been successfully tested in different cultures (Kadri et al., 2005; Otsubo et al., 2005; Rossi et al., 2004; Sheehan et al., 1998), and previously been used in research on war affected populations (Morina & Ford, 2008; Mufti et al., 2007).

Because of the special relevance of post-traumatic stress symptoms, we assessed the level of symptoms of intrusion, avoidance and hyperarousal on the Impact of Events Scale-Revised (IES-R) (Weiss, 2004). The IES-R is a 22-item self report measure. Each item is rated on a 0 (*not at all*) to 4 (*extremely*) scale with respect to how distressing each symptom has been during the past week.

Participants' age, gender, educational level and whether they actively participated in war were obtained using a brief structured questionnaire. Given the complex nature of the Balkan war, active participation did not necessarily mean a formal military status.

All interviewers were native speakers, or bilingual in Western European countries, trained in the assessments used in the survey. Written informed consent was obtained from all participants prior to the interview. The study was approved by the relevant national ethics committees.

Statistical analysis

The relationships between the different experiences and the outcomes were assessed using a Poisson regression model for the binary outcomes of PTSD and MD. Results are presented as relative risks (RR) with 95% confidence intervals, for the multivariate models along with the chi-square test statistic to show how well they fit the data. For IES-R scores, a linear regression model was used, with results presented as coefficients with 95% confidence intervals and the F statistic. All models were first run using unadjusted analysis. They were then adjusted for age, gender, education level, whether subjects were currently living in Western Europe or a Balkan country, and the number of traumatic pre-war events, since these variables have been found to be associated with the outcomes in previous analyses (Priebe et al., 2010). For IES-R scores as outcomes, only the adjusted scores are presented.

To assess whether the number of rights violations or the number of other experiences were more associated with the outcomes, models were run which contained both measures as well as the same variables that were considered in the original adjusted analyses. To test whether active participation in war and the number of post-war traumatic experiences influenced the findings, analyses were repeated with these two variables added to the regression models. The two variables were not included as independent variables in the first analysis as they may have been influenced by previous experiences in the war. All analyses were performed using Stata 10.1 (StataCorp, Texas).

Results

Sample characteristics

A total of 3313 participants were interviewed in Balkan countries (≥ 637 in each country) and 854 in Western European countries (≥ 255 in each country). Of 5330 contacted people in Balkan countries, 11.3% did not meet the inclusion criteria (4.9% because they had not experienced any stressful war event), and 70.1% of the eligible participants were interviewed. Among refugees, 52.9% of those people who responded to the invitation letters were interviewed. For snowball sampling, response rates could not be established.

Approximately half of the participants were females (53.3%). The mean age was 42.3 years (SD = 11.8). 28.7% had none or primary school education, 47.3% had a secondary school education and 24.0% had a university or postgraduate education. Participants reported experiencing a mean of 0.8 (SD = 1.1) potentially traumatic events before the war and 0.7 (SD = 0.9) after the war; 18.5% actively participated in the war.

Participants reported on average 4.7 (SD = 3.2) potentially traumatic experiences during the war. The items with lowest frequency were sexual assaults by a known person (0.4%) and by a stranger (0.9%), which were therefore collapsed with non-sexual assaults by a known person and by stranger, and life threatening illness (3.3%) which was dropped. The frequency for the remaining items ranged from 5.4% (non-sexual or sexual assault by a known person) to 84.5% (shelling/bombardment). Thus rights violations and other stressful experiences were each reflected in 10 items. Participants reported on average 2.3 (range: 0–10, SD = 2.0) rights violations and 2.3 (range: 0–9, SD = 1.6) other stressful war experiences; 3430 (82.4%) reported at least one rights violation and 3929 (94.3%) one or more other stressful experiences. There were various positive correlations between different experiences, the highest being between imprisonment and being kidnapped (Spearman's Rho 0.61). The number of violations and other stressful experiences were correlated (Spearman's Rho 0.51). Before performing the multivariate logistic regression analyses we investigated the levels of collinearity between the number of rights violations and the number of other experiences. Collinearity was low, with a variance inflation factor of 1.34. It is generally considered that inflation values greater than 10 should be considered problematic (Stine, 1995). In addition, the level of collinearity seen between the different experiences was also low, with an average inflation factor of 1.30.

The mean time (SD) since the most stressful war event was 8.6 (3.4) years, and the distress at the time was rated for each type of experience on average between 3.60 and 3.97, i.e. all close to the maximum of 4. Because of the lack of variance, the latter variable was not considered in further analyses.

Overall, 22.8% of the participants had current PTSD and also 22.8% had MD. The mean scores (SD) for the IES-R subscales were 9.8 (9.5) for intrusion, 6.8 (7.2) for hyperarousal and 9.3 (8.7) for avoidance.

War experiences and PTSD

Table 1 shows how each type of war experience was associated with the risk of having PTSD, with and without adjusting for confounders. With the exception of shelling/bombardment, each experience significantly increased the risk for PTSD. The highest relative risks were found for witnessing murder or death (unadjusted: 39.1% vs. 15.9%), being tortured (48.7% vs. 20.0%) and non-sexual or sexual assault by a stranger (44.2% vs. 19.4%). The findings did not change substantially after adjusting for potential confounders, although the adjusted relative risks of most experiences were lower than the unadjusted ones.

The associations of war experiences with the three IES-R subscales are shown in Table 2. Each experience with the exception of shelling/bombardment was significantly associated with higher levels of each symptom cluster of intrusion, avoidance and hyperarousal, with a tendency for higher associations with intrusion than with avoidance and hyperarousal. Shelling/bombardment was by far the most frequent experience and of the 15.2% who experienced only one event 77.5% had experienced shelling/bombardment. Thus, having experienced shelling/bombardment was linked to

having had only one stressful experience rather than a combination of several different ones. This may statistically explain the negative association of shelling/bombardment with the outcomes.

War experiences and MD

The unadjusted and adjusted relative risks of MD for each type of war experience are shown in Table 1. With the exception of sudden death of a dear person due to natural causes, combat and shelling/bombardment, each type of experience significantly increased the risk of MD. Torture (unadjusted: 43.7% vs. 20.6%) and having no access to medical care when ill (42.3% vs. 20.4%) were the two experiences with the highest relative risks of MD. After adjusting for confounders most relative risks were lower.

Comparing HR violations and other stressful experiences

When tested independently, both the numbers of rights violations and other war experiences significantly increased the risk for PTSD (RR = 1.26; 1.23, 1.28 and RR = 1.31; 1.27, 1.35, respectively) and MD (RR = 1.19; 1.17, 1.22 and RR = 1.14; 1.10, 1.17, respectively).

Table 1
Associations of experiences of human rights (HR) violations and other stressful war experiences with Post-Traumatic Stress Disorder (PTSD) and Major Depression (MD).

		PTSD			Major depression		
		Unadjusted		Adjusted ^a	Unadjusted		Adjusted ^a
		Has PTSD	RR (95% CI)		Has MD	RR (95% CI)	
<i>HR violation experiences</i>							
Non-sexual or sexual assault by someone they knew	No	840 (21.4)	1	1	858 (21.9)	1	1.00
	Yes	105 (47.1)	2.20 (1.89–2.57)***	1.81 (1.55–2.12)***	86 (38.9)	1.78 (1.49–2.12)***	1.42 (1.19–1.71)***
Non-sexual or sexual assault by stranger	No	697 (19.4)	1	1	727 (20.3)	1	1
	Yes	249 (44.2)	2.28 (2.03–2.55)***	1.91 (1.68–2.17)***	219 (39.0)	1.93 (1.70–2.18)***	1.57 (1.37–1.80)***
Imprisonment	No	810 (21.0)	1	1	835 (21.7)	1	1
	Yes	138 (45.4)	2.16 (1.89–2.48)***	1.71 (1.47–1.99)***	114 (37.8)	1.74 (1.49–2.04)***	1.44 (1.22–1.70)***
Ill without access to medical care	No	741 (20.0)	1	1	755 (20.4)	1	1
	Yes	206 (45.0)	2.25 (1.99–2.54)***	1.89 (1.67–2.14)***	193 (42.3)	2.07 (1.83–2.35)***	1.73 (1.52–1.97)***
Expelled from home under threat	No	462 (19.3)	1	1	465 (18.7)	1	1
	Yes	466 (27.9)	1.44 (1.29–1.61)***	1.29 (1.16–1.45)***	484 (29.1)	1.56 (1.40–1.74)***	1.47 (1.32–1.65)***
Siege	No	352 (15.1)	1	1	437 (18.9)	1	1
	Yes	594 (32.4)	2.14 (1.90–2.41)***	1.98 (1.76–2.23)***	510 (27.8)	1.48 (1.32–1.65)***	1.39 (1.24–1.56)***
Lack of food or water	No	386 (15.6)	1	1	448 (18.1)	1	1
	Yes	558 (33.3)	2.14 (1.91–2.40)***	1.95 (1.74–2.19)***	496 (29.7)	1.64 (1.47–1.84)***	1.54 (1.38–1.73)***
Lack of shelter	No	300 (15.8)	1	1	349 (18.4)	1	1
	Yes	644 (28.7)	1.82 (1.61–2.06)***	1.69 (1.50–1.91)***	597 (26.8)	1.46 (1.30–1.64)***	1.38 (1.32–1.55)***
Torture	No	753 (20.0)	1	1	775 (20.6)	1	1
	Yes	192 (48.7)	2.44 (2.16–2.75)***	2.03 (1.77–2.32)***	171 (43.7)	2.12 (1.86–2.41)***	1.84 (1.59–2.12)***
Kidnapped	No	839 (21.4)	1	1	854 (21.9)	1	1
	Yes	109 (44.1)	2.06 (1.77–2.40)***	1.54 (1.31–1.82)***	95 (38.6)	1.77 (1.49–2.09)***	1.41 (1.18–1.68)***
<i>Other experiences</i>							
Serious accident, fire, or explosion	No	869 (22.2)	1	1	903 (22.5)	1	1.00
	Yes	79 (32.2)	1.45 (1.20–1.76)***	1.44 (1.20–1.73)***	46 (34.1)	1.58 (1.32–1.89)***	1.59 (1.32–1.90)***
Sudden death of a dear person due to natural causes	No	829 (22.0)	1	1	848 (22.5)	1	1
	Yes	118 (30.3)	1.38 (1.17–1.62)***	1.30 (1.10–1.53)**	100 (25.8)	1.15 (0.96–1.37)	1.08 (0.91–1.29)
Combat	No	707 (20.7)	1	1	780 (22.8)	1	1
	Yes	240 (32.7)	1.58 (1.40–1.79)***	1.75 (1.51–2.03)***	168 (23.0)	1.01 (0.87–1.17)	1.09 (0.93–1.29)
Shelling or bombardment	No	132 (20.8)	1	1	194 (30.6)	1	1
	Yes	814 (23.1)	1.11 (0.95–1.31)	1.09 (0.93–1.28)	752 (21.4)	0.70 (0.61–0.80)***	0.68 (0.59–0.78)***
Mine explosion	No	773 (21.1)	1	1	809 (22.2)	1	1
	Yes	102 (32.5)	1.54 (1.30–1.83)***	1.55 (1.31–1.84)***	84 (26.9)	1.22 (1.00–1.47)*	1.22 (1.01–1.49)*
Serious injury	No	800 (20.8)	1	1	839 (21.9)	1	1
	Yes	148 (46.8)	2.25 (1.97–2.57)***	2.13 (1.85–2.44)***	110 (35.0)	1.60 (1.36–1.89)***	1.58 (1.35–1.850)***
Witnessed murder or death	No	464 (15.9)	1	1	574 (19.7)	1	1
	Yes	474 (39.1)	2.47 (2.21–2.75)***	2.25 (2.01–2.52)***	364 (30.2)	1.54 (1.37–1.72)***	1.39 (1.24–1.57)***
Learned about murder or death of a dear person	No	379 (15.5)	1	1	453 (18.6)	1	1
	Yes	552 (32.7)	2.11 (1.88–2.36)***	1.88 (1.67–2.11)***	479 (28.5)	1.53 (1.37–1.71)***	1.39 (1.24–1.56)***
Disappearance or kidnapping of a dear person	No	642 (19.6)	1	1	683 (20.9)	1	1
	Yes	299 (33.9)	1.73 (1.54–1.94)***	1.53 (1.36–1.72)***	257 (29.2)	1.39 (1.23–1.58)***	1.23 (1.09–1.39)**
Being lost	No	745 (20.1)	1	1	774 (20.9)	1	1
	Yes	200 (44.7)	2.23 (1.97–2.51)***	1.98 (1.75–2.23)***	170 (38.2)	1.83 (1.60–2.09)***	1.65 (1.44–1.89)***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

^a Adjusted for age, gender, education level, whether subjects were currently living in Western Europe or a Balkan country, and the number of pre-war traumatic events.

Table 2

Associations of experiences of human rights (HR) violations and other stressful war experiences with post-traumatic stress symptoms as measured by IES-R.

	IES-R intrusion ^a	IES-R avoidance ^a	IES-R hyperarousal ^a
	Coeff (95% CI)	Coeff (95% CI)	Coeff (95% CI)
HR violation experiences			
Non-sexual or sexual assault by someone they knew	4.74 (3.47,6.01)***	3.46 (2.27,4.65)***	3.84 (2.87,4.82)***
Non-sexual or sexual assault by stranger	4.66 (3.80,5.52)***	3.94 (3.13,4.75)***	3.59 (2.93,4.25)***
Imprisonment	4.69 (3.58,5.80)***	3.94 (2.91,4.97)***	3.94 (3.09,4.79)***
Lack of food or water	3.02 (2.45,3.59)***	2.73 (2.20,3.26)***	2.46 (2.03,2.90)***
Lack of shelter	2.05 (1.48,2.61)***	1.80 (2.20,3.26)***	1.78 (1.35,2.21)***
Ill without access to medical care	4.06 (3.16,4.96)***	3.98 (3.14,4.82)***	3.22 (2.53,3.91)***
Expelled from home under threat	1.51 (0.93,2.08)***	1.54 (1.00,2.07)***	0.99 (0.55,1.44)***
Siege	2.24 (1.67,2.81)***	2.12 (1.59,2.65)***	1.92 (1.49,2.35)***
Torture	6.21 (5.24,7.18)***	5.11 (4.20,6.02)***	4.89 (4.14,5.63)***
Kidnapped	4.62 (3.40,5.84)***	3.61 (2.47,4.74)***	3.74 (2.81,4.67)***
Other experiences			
Serious accident, fire, or explosion	4.05 (2.88,5.23)***	2.97 (1.88,4.07)***	2.32 (1.42,3.22)***
Sudden death of a dear person due to natural causes	1.91 (0.95,2.86)***	1.60 (0.71,2.50)***	1.45 (0.72,2.18)***
Combat	2.47 (1.66,3.29)***	2.14 (1.38,2.90)***	2.14 (1.52,2.77)***
Shelling or bombardment	-1.10 (-1.88,-0.32)**	-1.33 (-2.05,-0.61)***	-0.63 (-1.23,-0.04)*
Mine explosion	2.77 (1.71,3.83)***	3.13 (2.14,4.12)***	2.38 (1.57,3.19)***
Serious injury	4.85 (3.79,5.90)***	4.10 (3.11,5.09)***	4.34 (3.53,5.14)***
Witnessed murder or death	4.26 (3.64,4.88)***	3.81 (3.23,4.39)***	3.33 (2.85,3.80)***
Learned about murder or death of a dear person	3.10 (2.52,3.67)***	2.74 (2.20,3.27)***	2.35 (1.91,2.79)***
Disappearance or kidnapping of a dear person	2.57 (1.88,3.25)	1.95 (1.30,2.59)***	2.01 (1.48,2.54)***
Being lost	4.55 (3.65,5.45)***	4.47 (3.63,5.31)***	3.59 (2.91,4.28)***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.^a Adjusted for age, gender, education level, whether subjects were currently living in Western Europe or a Balkan country, and the number of pre-war traumatic events.

Table 3 shows the predictive models when the number of violations and of other stressful experiences, along with the considered confounders, were included in the same analyses.

Both the numbers of violations and of other stressful experiences remained significant predictors of PTSD and symptom levels of intrusion, avoidance and hyperarousal. They have similar associations with each of these outcomes. However, for MD only the number of rights violations remained as a significant predictor in the model, whilst the number of other stressful experiences did not significantly increase the risk for MD anymore. These associations were not altered after adjusting for active participation in the war and number of post-war traumatic experiences, and relative risks

remained similar for PTSD (HR violations = 1.15; 1.12, 1.18; other experiences = 1.19; 1.14, 1.24) and MD (HR violations = 1.15; 1.11, 1.18; other experiences RR = 1.04; 0.99, 1.09).

Comment

The present study results suggest that most types of stressful war experiences are associated with a substantially increased risk of PTSD and MD in war affected people who were assessed on average eight years later. Adjusting for age, gender, school education, number of potentially traumatic events experienced before the war and current living in the Balkans versus in Western Europe did not substantially alter the findings. When the number of rights violations and other stressful experiences were considered in the same model, both were significantly linked with raised rates of PTSD and more symptoms of intrusion, avoidance and hyperarousal. However, only the number of rights violations, and not other stressful experiences, remained a significant predictor of increased rates of MD.

To our knowledge, this is the largest community-based study investigating the relationship between different types of war experiences and long-term mental health. The large sample generated sufficient statistical power to interpret negative findings. All assessments were done in face-to-face interviews with well-trained researchers who spoke the mother tongue of the interviewees. A further strength is that standardised instruments were used to establish mental disorders and post-traumatic stress symptoms. Finally, findings held true after adjusting for potential confounders, including post-war traumatic experiences.

The study has several limitations. The sampling procedure used in Western European countries was less rigorous than in Balkan countries, possibly leading to non-representative samples. This may have influenced prevalence rates, but should be less problematic for establishing relative risks (Etter & Perneger, 2000), and adjustment for whether participants were recruited in the Balkans or Western Europe did not affect the findings. Memory bias or a reluctance to disclose stressful experiences may have influenced

Table 3

Multivariate associations of experiences of human rights (HR) violations and other stressful war experiences with PTSD, Major Depression, and post-traumatic stress symptoms.

	RR (95%CI) ^a	Chi square
<i>PTSD</i>		
Number of HR violations	1.15 (1.12–1.18)***	792.4
Number of other experiences	1.21 (1.17–1.25)***	
<i>Major Depression</i>		
Number of HR violations	1.16 (1.12–1.19)***	416.9
Number of other experiences	1.03 (0.99–1.07)	
<i>Coefficient^a</i>		
<i>F statistic</i>		
<i>Intrusion</i>		
Number of HR violations	1.26 (1.11–1.41)***	86.3
Number of other experiences	1.44 (1.26–1.62)***	82.7
<i>Avoidance</i>		
Number of HR violations	1.12 (0.98–1.25)***	60.4
Number of other experiences	1.25 (1.08–1.41)***	55.7
<i>Hyperarousal</i>		
Number of HR violations	1.01 (0.90–1.12)***	89.8
Number of other experiences	1.14 (1.01–1.28)***	84.6

*** $p < 0.001$.^a Adjusted for age, gender, education level, whether subjects were currently living in Western Europe or a Balkan country, and the number of pre-war traumatic events.

the recollection of some or all types of war experiences (Mollica, Caridad, & Massagli, 2007). The use of crude categories for traumatic experiences, i.e. without considering the context of the given experience (e.g. the exact reasons for and conditions of imprisonment) may have led to a misclassification of some experiences as rights violations or other stressful experiences. We did not seek to establish the precise context of each experience in a retrospective research interview many years later, as this would have been unreliable and potentially leading to significant response bias since many participants regarded such inquiries as intrusive. Also, we assessed disorders on average eight years after the war and do not know what disorders participants had in the meantime.

This study analysed risks for PTSD and MD as the most consistently reported and frequent disorders in war affected populations. However, other sequelae such as anxiety, somatisation (Klaric et al., 2007; Shrestha et al., 1998; Van Ommeren et al., 2001), complicated grief (Craig, Sossou, Schnak, & Essex, 2008; Momartin, Silove, Manicavasagar, & Steel, 2004) and complex PTSD as marked by explosive forms of anger (Hinton, Rasmussen, Nou, Pollack, & Good, 2009; Silove et al., 2009) have also been described as a result of war trauma in combination with PTSD and MD or on their own. It has been argued that the mental health consequences of prolonged, multiple and repeated stressful experiences, such as those occurring in war, may not be well captured by the current definition of PTSD and that the concepts of complex PTSD or Disorders of Extreme Stress Not Otherwise Specified (DESNOS) may be more appropriate (Herman, 1992; Pelcovitz et al., 1997). In previous studies, people affected by the war in the Balkans were indeed found to have some symptoms of complex PTSD. However, very few (Morina & Ford, 2008) or no participants (Weine et al., 1998) met the full criteria for complex PTSD. The focus of this study on PTSD and MD therefore considered the most frequent disorders in war affected Balkan communities using established diagnostic systems (Priebe et al., 2010).

The comparison of the findings with the existing literature is limited because of the inconsistent classification of war experiences across existing studies. Some previous research has suggested a particularly strong association between experienced human rights violations and subsequent mental disorders. Dahl et al. (1998) found a higher rate of PTSD among Bosnian women who had experienced confinement in concentration camps and/or had been victims of or witnessed rape than in those with general war experiences. Several other studies have indicated that exposure to physical abuse, especially torture, may particularly increase the risk for both PTSD (Basoglu et al., 2005; Dahl et al., 1998; De Jong et al., 2001; Jaranson et al., 2004; Scholte et al., 2004; Shrestha et al., 1998; Silove et al., 2002; Steel et al., 2009) and MD (Dahl et al., 1998; Shrestha et al., 1998; Steel et al., 2009). In contrast, and in line with our findings, a study of Bosnian refugees residing in Australia found that experience of rights violations (internment in concentration camp, torture or witnessing others being tortured) was not a better predictor of PTSD than were other general war experiences (Momartin, Silove, Manicavasagar, & Steel, 2003), traumatic loss and threat to life (Silove, Momartin, Marnane, Steel, & Manicavasagar, 2010).

The relative risk for the two disorders associated with some types of traumatic experience is large and of practical relevance. In the interpretation of the relative risks of the different experiences one needs to consider that people usually experienced a complex combination of more or less stressful events over longer periods of time. Single experiences did not occur in isolation, but were part of an ongoing struggle for survival within the unpredictable context of war. The relative risks do therefore not necessarily reflect an impact of that particular experience alone. They only indicate that people with specific experiences are at higher risk of having PTSD or MD many years later. The approach of this study was to disentangle the

complex interplay of experiences using statistical methods in a large data set; it does not capture the various influences that experiencing one event may have on experiencing other stressful events.

Most experiences are linked with a higher risk for both PTSD and MD. Yet, some experiences appear to have stronger associations with one of the two disorders. Learning about the sudden death of a dear person due to natural causes and combat were linked with higher risks for PTSD, but not MD. The specific predictive value of combat experience for PTSD, but not MD, has also been suggested in other samples (Basoglu et al., 2005; Hotopf et al., 2006). Combat experience in this study did not commonly involve formal enrolment as a soldier, but a direct experience of war activities in the context of an ongoing and repeatedly changing armed conflict. Such experience may have posed direct threats to life and physical integrity (in line with the definition of the A-criterion for PTSD in DSM IV) leading to PTSD, but not MD.

The experience of human rights violations might particularly affect an individual's trust in the reliability of societal values and rules, confidence in human relationships, and belief in a predictable and positive future. Feelings of having been betrayed by neighbours and other close community members who either actively perpetrated violence or were passive bystanders, are likely to have remained strong years after the events, resulting in existential disappointment in human nature, shifted value systems and pessimistic worldviews. Ajdukovic and Corkalo (2004) described deep psychological injury and high levels of distrust between community members from two ethnic groups 11 years after the war. These were attributed to the failure of inter-ethnic friends and neighbours to forewarn each other about imminent life threatening danger and to provide protection or support at the critical times. Some of them became actively involved in violence against community members. It was documented that after atrocities people in the Balkans and Rwanda felt powerless, unsafe and let down by the authorities because they believed that perpetrators of organized violence and community destruction continued to live with impunity in those same communities (Corkalo et al., 2004; Longman & Rutagengwa, 2004).

Preventing violations to human rights and respecting the Geneva Convention is an ethical and humanitarian imperative. Yet, the ethical concept of human rights might also have a psychological significance. A substantial literature indicates that experiencing rights violations may have a significant negative long-term impact on mental health. In addition, the findings of this study suggest that over time, such experiences may increase the risk of developing and maintaining MD more than other stressful experiences do.

More in-depth studies should explore the precise processes linking different war experiences with different mental disorders many years later. On a practical level, war survivors who have experienced rights violations may require higher levels of mental health care than other war survivors, even many years after the war.

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References

- Ahlstrom, C. (1991). *Casualties of conflict: Report for the world campaign for the protection of victims of war*. Uppsala: Uppsala University.
- Ajdukovic, D., & Corkalo, D. (2004). Trust and betrayal in war. In E. Stover, & H. M. Weinstein (Eds.), *My neighbour, my enemy – Justice and community in the aftermath of mass atrocity* (pp. 287–302). Cambridge: Cambridge University Press.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington: American Psychiatric Association.
- Arcel, L. T., Popovic, S., Kucukalic, A., & Bravo-Mehmedbasic, A. (2003). *Treatment of torture and trauma survivors in a post war society*. Sarajevo: CTV Sarajevo.
- Arcel, L. T., & Simunkovic-Tocij, G. (1998). *War violence, trauma and the coping process*. Zagreb: Nakladnistvo Limun.
- Basoglu, M., Livanou, M., Crnobaric, C., Franciskovic, T., Suljic, E., Duric, D., et al. (2005). Psychiatric and cognitive effects of war in former Yugoslavia: association of lack of redress for trauma and posttraumatic stress reactions. *Journal of American Medical Association*, 294, 580–590.
- Blair, R. G. (2000). Risk factors associated with PTSD and major depression among Cambodian refugees in Utah. *Health & Social Work*, 25, 23–30.
- Bramsen, I., & van der Ploeg, H. M. (1999). Fifty years later: the long-term psychological adjustment of ageing World War II survivors. *Acta Psychiatrica Scandinavica*, 100, 350–358.
- Cassese, A. (2008). *International criminal law* (2nd ed.). Oxford: Oxford University Press.
- Corkalo, D., Ajdukovic, D., Weinstein, H. M., Stover, E., Djipa, D., & Biro, M. (2004). Neighbors again? Intercommunity relations after ethnic cleansing. In E. Stover, & H. M. Weinstein (Eds.), *My neighbour, my enemy – Justice and community in the aftermath of mass atrocity* (pp. 143–161). Cambridge: Cambridge University Press.
- Craig, C. D., Sossou, M. A., Schnak, M., & Essex, H. (2008). Complicated grief and its relationship to mental health and well-being among Bosnian refugees after resettlement in the United States: implications for practice, policy, and research. *Traumatology*, 14, 103–115.
- Dahl, S., Mutapcic, A., & Schei, B. (1998). Traumatic events and predictive factors for posttraumatic symptoms in displaced Bosnian women in a war zone. *Journal of Traumatic Stress*, 11, 137–145.
- De Jong, J. T., Komproe, I. H., & van Ommeren, M. (2003). Common mental disorders in postconflict settings. *Lancet*, 361, 2128–2130.
- De Jong, J. T., Komproe, I. H., van Ommeren, M., El Masri, M., Araya, M., Khaled, N., et al. (2001). Lifetime events and posttraumatic stress disorder in 4 post-conflict settings. *Journal of American Medical Association*, 286, 555–562.
- Dinstein, Y. (2004). *The conduct of hostilities under the law of international armed conflict*. Cambridge: Cambridge University Press.
- Dinstein, Y. (2009). *The international law of belligerent occupation*. Cambridge: Cambridge University Press.
- Etter, J. F., & Perneger, T. V. (2000). Snowball sampling by mail: application to a survey of smokers in the general population. *International Journal of Epidemiology*, 29, 43–48.
- Eurostat. (2004). *Population statistics* (2004 ed.). Luxembourg: Office for Official Publications of the European Communities.
- Favaro, A., Maiorani, M., Colombo, G., & Santonastaso, P. (1999). Traumatic experiences, posttraumatic stress disorder, and dissociative symptoms in a group of refugees from former Yugoslavia. *Journal of Nervous and Mental Disease*, 187, 306–308.
- Henckaerts, J. M., & Doswald-Beck, L. (2005). *Rules*. In *Customary international humanitarian law*, Vol. I. Cambridge: ICRC and Cambridge University Press.
- Herman, J. (1992). Complex PTSD: a syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress*, 5, 377–391.
- Hinton, L., Jenkins, C., McPhee, S., Wong, C., Lai, K. Q., Le, A., et al. (1998). Survey of depressive symptoms among Vietnamese-American men in three locales: prevalence and correlates. *Journal of Nervous and Mental Disease*, 186, 677–683.
- Hinton, D. E., Rasmussen, A., Nou, L., Pollack, M. H., & Good, M. J. (2009). Anger, PTSD, and the nuclear family: a study of Cambodian refugees. *Social Science & Medicine*, 69, 1387–1394.
- Hotopf, M., Hull, L., Fear, N. T., Browne, T., Horn, O., Iversen, A., et al. (2006). The health of UK military personnel who deployed to the 2003 Iraq war: a cohort study. *Lancet*, 367, 1731–1741.
- International Committee of the Red Cross (ICRC). (2009). *The Geneva conventions of 1949*. Retrieved from <http://www.icrc.org/Web/Eng/siteeng0.nsf/htmlall/genevaconventions> Accessed 04.12.09.
- International Committee of the Red Cross (ICRC). (2010). *Our world. Views from the field. Summary report: Afghanistan, Colombia, Democratic Republic of the Congo, Georgia, Haiti, Lebanon, Liberia and the Philippines. Opinion survey and in-depth research, 2009*. Geneva: ICRC.
- Jaranson, J. M., Butcher, J., Halcon, L., Johnson, D. R., Robertson, C., Savik, K., et al. (2004). Somali and Oromo refugees: correlates of torture and trauma history. *American Journal of Public Health*, 94, 591–598.
- Kadri, N., Agoub, M., El Gnaoui, S., Alami, K. M., Hergueta, T., & Moussaoui, D. (2005). Moroccan colloquial Arabic version of the Mini International Neuropsychiatric Interview (MINI): qualitative and quantitative validation. *European Psychiatry*, 20, 193–195.
- Klaric, M., Klaric, B., Stevanovic, A., Grkovic, J., & Jonovska, S. (2007). Psychological consequences of war trauma and postwar social stressors in women in Bosnia and Herzegovina. *Croatian Medical Journal*, 48, 167–176.
- Lecrubier, Y., Sheehan, D. V., Weiller, E., Amorim, P., Bonora, I., Sheehan, K. H., et al. (1997). The Mini International Neuropsychiatric Interview (MINI). A short diagnostic structured interview: reliability and validity according to the CIDI. *European Psychiatry*, 12, 224–231.
- Longman, T., & Rutagengwa, T. (2004). Memory, identity and community in Rwanda. In E. Stover, & H. M. Weinstein (Eds.), *My neighbour, my enemy – Justice and community in the aftermath of mass atrocity* (pp. 162–182). Cambridge: Cambridge University Press.
- Maercker, A., Michael, T., Fehm, L., Becker, E. S., & Margraf, J. (2004). Age of traumatization as a predictor of PTSD or major depression in young women. *British Journal of Psychiatry*, 184, 482–487.
- Marshall, M. G., & Cole, B. R. (2009). *Global report 2009: Conflict, governance, and state fragility*. George Mason University: Center for Systemic Peace and Center for Global Policy.
- Marshall, G. N., Schell, T. L., Elliott, M. N., Berthold, S. M., & Chun, C. A. (2005). Mental health of Cambodian refugees 2 decades after resettlement in the United States. *Journal of American Medical Association*, 294, 571–579.
- Mollica, R. F., Caridad, K. R., & Massagli, M. P. (2007). Longitudinal study of post-traumatic stress disorder, depression, and changes in traumatic memories over time in Bosnian refugees. *Journal of Nervous Mental Disease*, 195, 572–579.
- Mollica, R. F., Caspi-Yavin, Y., Bollini, P., Tuong, T., Tor, S., & Lavelle, J. (1992). The Harvard trauma questionnaire. Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous Mental Disease*, 180, 111–116.
- Mollica, R. F., Sarajlic, N., Chernoff, M., Lavelle, J., Sarajlic, I., & Massagli, M. P. (2001). Longitudinal study of psychiatric symptoms, disability, mortality, and emigration among Bosnian refugees. *Journal of American Medical Association*, 286, 546–554.
- Momartin, S., Silove, D., Manicavasagar, V., & Steel, Z. (2003). Dimensions of trauma associated with Posttraumatic Stress Disorder (PTSD) caseness, severity and functional impairment: a study of Bosnian refugees resettled in Australia. *Social Science & Medicine*, 57, 775–781.
- Momartin, S., Silove, D., Manicavasagar, V., & Steel, Z. (2004). Complicated grief in Bosnian refugees: associations with posttraumatic stress disorder and depression. *Comprehensive Psychiatry*, 45, 475–482.
- Morina, N., Böhme, H. F., Ajdukovic, D., Bogic, M., Franciskovic, T., Galeazzi, G. M., et al. (2010). The structure of posttraumatic stress symptoms in survivors of war: confirmatory factor analysis of the impact of event scale—revised. *Journal of Anxiety Disorders*, 24, 606–611.
- Morina, N., & Ford, J. D. (2008). Complex sequelae of psychological trauma among Kosovar civilian war victims. *International Journal of Social Psychiatry*, 54, 425–436.
- Mufti, K. A., Naeem, F., Chaudry, H. R., Haroon, A., Saifi, F., Qureshi, S. M., et al. (2007). Post-traumatic stress disorder among Afghan refugees following war. *International Psychiatry*, 4, 7–9.
- Nation, R. C. (2003). *War in the Balkans, 1991–2002*. Carlisle, PA: Strategic Studies Institute, US ArmyWar College.
- Otsubo, T., Tanaka, K., Koda, R., Shinoda, J., Sano, N., Tanaka, S., et al. (2005). Reliability and validity of Japanese version of the Mini-International Neuropsychiatric Interview. *Psychiatry and Clinical Neuroscience*, 59, 517–526.
- Pejic, J. (2005). Humanitarian law and human rights in armed conflict. In R. K. M. Smith, & C. Van den Anker (Eds.), *The essentials of human rights* (pp. 167–169). London: Hodder Arnold.
- Pelcovitz, D., van Der Kolk, B. A., Roth, S. H., Mandel, F., Kaplan, S., & Resick, P. (1997). Development of a criteria set and a Structured Interview for Disorders of Extreme Stress (SIDES). *Journal of Traumatic Stress*, 10, 3–16.
- Perkonig, A., Kessler, R. C., Storz, S., & Wittchen, H. U. (2000). Traumatic events and posttraumatic stress disorder in the community: prevalence, risk factors and comorbidity. *Acta Psychiatrica Scandinavica*, 101, 46–59.
- Priebe, S., Bogic, M., Ajdukovic, D., Franciskovic, T., Galeazzi, G. M., Kucukalic, A., et al. (2010). Mental disorders following war in the Balkans: a study in 5 countries. *Archives of General Psychiatry*, 67, 518–528.
- Priebe, S., Gavrilovic Jankovic, J., Schuetzwohl, M., Galeazzi, G. M., Lecic-Tosevski, D., Ajdukovic, D., et al. (2004). A study of long-term clinical and social outcomes after war experiences in ex-Yugoslavia – methods of the ‘CONNECT’ project. *Psychiatry Today*, 36, 101–122.
- Rossi, A., Alberio, R., Porta, A., Sandri, M., Tansella, M., & Amaddeo, F. (2004). The reliability of the Mini-International Neuropsychiatric Interview-Italian version. *Journal of Clinical Pharmacology*, 24, 561–563.
- Scholte, W. F., Olf, M., Ventevogel, P., de Vries, G. J., Jansveld, E., Cardozo, B. L., et al. (2004). Mental health symptoms following war and repression in eastern Afghanistan. *Journal of American Medical Association*, 292, 585–593.
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., et al. (1998). Mini International Neuropsychiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry*, 59(Suppl. 20), 22–33.
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Janavs, J., Weiller, E., Keskiner, A., et al. (1997). The validity of the Mini International Neuropsychiatric Interview (MINI) according to the SCID-P and its reliability. *European Psychiatry*, 12, 232–241.
- Shrestha, N. M., Sharma, B., van Ommeren, M., Regmi, S., Makaju, R., Komproe, I., et al. (1998). Impact of torture on refugees displaced within the developing world:

- symptomatology among Bhutanese refugees in Nepal. *Journal of American Medical Association*, 280, 443–448.
- Silove, D., Brooks, R., Steel, B. C. R., Steel, Z., Hewage, K., Rodger, J., et al. (2009). Explosive anger as a response to human rights violations in post-conflict Timor-Leste. *Social Science & Medicine*, 69, 670–677.
- Silove, D., Momartin, S., Marnane, C., Steel, Z., & Manicavasagar, V. (2010). Adult separation anxiety disorder among war-affected Bosnian refugees: comorbidity with PTSD and associations with dimensions of trauma. *Journal of Traumatic Stress*, 23, 169–172.
- Silove, D., Steel, Z., McGorry, P., Miles, V., & Drobny, J. (2002). The impact of torture on post-traumatic stress symptoms in war-affected Tamil refugees and immigrants. *Comprehensive Psychiatry*, 43, 49–55.
- Steel, Z., Chey, T., Silove, D., Marnane, C., Bryant, R. A., & van Ommeren, M. (2009). Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and displacement: a systematic review and meta-analysis. *Journal of American Medical Association*, 302, 537–549.
- Stine, R. A. (1995). Graphical interpretation of variance inflation factors. *The American Statistician*, 49, 53–56.
- Van Ommeren, M., de Jong, J. T., Sharma, B., Komproe, I., Thapa, S. B., & Cardena, E. (2001). Psychiatric disorders among tortured Bhutanese refugees in Nepal. *Archives of General Psychiatry*, 58, 475–482.
- Vinck, P., Pham, P. N., Stover, E., & Weinstein, H. M. (2007). Exposure to war crimes and implications for peace building in northern Uganda. *Journal of American Medical Association*, 298, 543–554.
- Weine, S. M., Becker, D. F., Vojvoda, D., Hodzic, E., Sawyer, M., Hyman, L., et al. (1998). Individual change after genocide in Bosnian survivors of “ethnic cleansing”: assessing personality dysfunction. *Journal of Traumatic Stress*, 11, 147–153.
- Weiss, D. S. (2004). The impact of event scale-revised. In J. P. Wilson, & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (2nd ed.). (pp. 168–189) New York: Guilford Press.
- Wolfe, J., & Kimerling, R. (1997). Gender issues in the assessment of posttraumatic stress disorder. In J. Wilson, & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 192–238). New York: Guilford.