

## ORIGINAL PAPER

Zahava Solomon · Marc Gelkopf · Avraham Bleich

# Is terror gender-blind? Gender differences in reaction to terror events

Accepted: 30 June 2005 / Published online: 09 December 2005

**Abstract** *Objective* This study examines gender differences in posttraumatic vulnerability in the face of the terror attacks that occurred during the Al-Aqsa Intifada. In addition, the contribution of level of exposure, sense of safety, self-efficacy, and coping strategies is assessed. *Method* Participants were 250 men and 262 women, who constitute a representative sample of Israel's adult population. Data were collected via a structured questionnaire consisting of 51 items that were drawn from several questionnaires widely used in the study of trauma. *Results* The findings indicate that women endorsed posttraumatic and depressive symptoms more than men and that, generally, their odds of developing posttraumatic stress symptoms are six times higher than those of men. Results also revealed that women's sense of safety and self-efficacy are lower than men's and that there are gender differences in coping strategies in the face of terror. *Conclusions* Gender differences in vulnerability to terror may be attributable to a number of factors, among these are women's higher sense of threat and lower

self-efficacy, as well as their tendency to use less effective coping strategies than men. Level of exposure to terror was ruled out as a possible explanation for the gender differences in vulnerability.

**Key words** gender differences – terrorism – PTSD – coping behavior – epidemiology

## Introduction

Since the onset of the Al-Aqsa Intifada in September 2000, Israel has been hit by numerous and deadly terror attacks, many of them by suicide bombers. These attacks were carried out in a host of public places—buses, restaurants, supermarkets, shopping malls, and others—and struck at Israelis of all ages and all walks of life. Between September 2000 and April 2002, 472 people—318 of them civilians—were killed in terror attacks, and an additional 3,846—2,708 of them civilians—were injured, most of them severely.

Exposure to traumatic events is a pathogenic factor known to cause and exacerbate somatic and psychiatric distress and disorder including depression, anxiety, and posttraumatic stress disorder (PTSD). At the same time, studies have repeatedly documented considerable variability in the responses of different persons to similar traumatic events. Among other differences, some studies show that women are at greater risk for depression and anxiety [1] and PTSD [2, 3] than men following exposure to traumatic situations. However, other studies (e.g., [4]) have found gender to have only a limited effect as a predictor for PTSD.

Recently, gender differences have also been found following acts of terror. Namely, surveys querying emotional responses to the attacks of September 11th found that women were more vulnerable than men to posttraumatic symptomatology [5, 6].

Why women react more strongly to adversity than men is unclear. Are women exposed to more traumatic stress? Do they perceive certain stressors as more

---

Prof. Z. Solomon, PhD (✉)  
Bob Shappel School of Social Work  
Tel Aviv University  
Ramat Aviv  
Tel Aviv, 69978, Israel  
Tel.: +972-3/640-9507  
Fax: +972-3/640-9182

Prof. Z. Solomon, PhD  
Adler Research Center  
Tel Aviv University  
Tel Aviv, Israel

M. Gelkopf, PhD  
Lev Hasharon Mental Health Center  
Netanya, Israel

A. Bleich, MD  
Sackler School of Medicine and Natal:  
The Israel Trauma Center for Victims of Terror  
Tel Aviv, Israel

threatening [7]? Is their coping ability less adequate and efficient than men's?

Studies [8, 9] have repeatedly implicated coping and self-efficacy in the development of posttraumatic reactions. Gender differences in coping, assessed following various traumatic events, suggest that differences in men's and women's coping may account for their differential posttraumatic responses. Some studies have shown that women tend to use "emotion-focused" coping, whereas men use "problem-focused" strategies [10, 11]. There is also evidence that women tend to seek out social support [11] and that men underestimate the stressful events and engage in distracting activities [12]. Gender differences in response to trauma may be related to the specific gender roles and the definitions of "feminine" and "masculine" behaviors in society [13]. Men and women may not only differ in their reactions to traumatic stress, but also—and perhaps primarily—in their willingness to report those reactions [12–14].

Some have attributed at least part of the difference in posttraumatic vulnerability to the possibility that men and women differ in the kinds of stressful events they experience [14]. Terror, on the other hand, targets its victims indiscriminately, be they men or women.

The present study aims to assess the implication of gender in coping with terror. More specifically, the contribution of level of exposure, coping strategies, and self-efficacy to posttraumatic symptoms in men and women is examined.

## Method

### ■ Sample

Because Israel is a heterogeneous country with many subpopulations, the sample was obtained by within-strata random-sampling method using a large database maintained by the DAHAF Institute. Strata were identified by the following criteria: age, residence (towns and communities), new immigrants from the former Soviet Union, kibbutz members, ultra-orthodox Jews, Israeli Arabs, and Jews either born or whose fathers were born in Western Europe or North America vs. those born or whose fathers were born in Asia or Africa (new immigrants included). The size of each stratum was deduced from information drawn from the Israeli Central Bureau of Statistics [15]. The target population consisted of all adult Israeli residents aged 18 years or older. Accordingly, 902 households were telephoned, and 742 individuals were randomly reached by telephone (82% contact rate). Of these, 69% agreed to participate in the study, yielding a final participation rate of 57% and a representative sample of the Israeli population with a maximum sampling error of 4.5%.

The sample consisted of 250 men (48.9%) and 262 women (51.1%). Ages ranged from 18 to 66, and the mean age was 38.35 (SD=15.8 years). Jews constituted 86.8% of the sample, and 13.2% were Arabs. In terms of education, 48.4% had a year or more of education after high school, 46.9% completed high school, and 4.7% attended only elementary school. With respect to religiosity, 11% of the Jews in the sample reported that they were religious, 30.5% that they were traditional, 4.9% that they were orthodox, and 53.6% that they were atheists. Most of the sample lived in urban areas (79.4%), while the rest lived in agricultural or village communities (7.4%),

kibbutzim (2%), and settlements outside the 1967 Israeli borders (1.8%).

With respect to income, 49.3% reported a net family income below the national average, 31.7% reported an average family income, and 28.9% reported higher than average family income. The sample was representative of the Israeli population: no differences were observed between the above distribution and data provided by the Israeli Central Bureau of Statistics [15].

The only demographic variable in which a gender difference was found was religiosity. More men (136, 63.6%) than women (99, 44.2%) defined themselves as non-religious, while more women than men defined themselves as either traditional, religious, or orthodox (traditional: women—78, 34.8%, men—55, 25.7%; religious—women 33, 14.7%, men 15, 7%; orthodox: women 14, 6.3%, men 8, 3.7%; ( $\chi^2=17.97$ ,  $df=3$ ,  $p=0.000$ ) Participants and nonparticipants did not differ on any demographic variable, except age. Participants were significantly younger ( $M=35.7$ ,  $SD=15.4$ ) than nonparticipants ( $M=38.2$ ,  $SD=14.2$ ;  $t=2.1$ ,  $df=740$ ,  $p=.04$ ).

### ■ Data collection

Data were collected via a structured questionnaire consisting of 51 items that were drawn from several questionnaires widely used in the study of reactions to trauma and coping. These questionnaires measure exposure to traumatic events, traumatic stress-related (TSR) symptoms, depression, sense of safety, self-efficacy, future orientation, and means of coping.

Except as otherwise indicated below, the participants were asked to reply to the questions with respect to the "last year and a half since the beginning of the events," which is approximately the time that had elapsed since the beginning of the Intifada.

Following a telephone pilot study of 30 individuals, the questionnaire was modified to make it telephone-friendly.

### Measures

**Exposure** Participants were asked (1) whether they had been exposed to a terrorist attack, (2) whether a friend or family member had been exposed to an attack, and (3) whether they were injured in an attack or a friend or family member was injured or killed. Based on these three questions, we divided the participants into six exposure groups, each based on one combination of a yes/no reply to the above questions.

Level of objective threat was determined by three criteria. First, all individuals who lived in either Jerusalem, Tel-Aviv, Netanya, or Haifa (the four cities where most of the suicide bombings occurred), as well as those who lived in settlements, where the number of attacks was even higher, were grouped together and compared with those who lived elsewhere in Israel. Second, individuals living in urban vs. non-urban places were compared after removing from this variable those living in the settlements. Third, the Jewish and the Arab populations were compared. Although Arabs were among the casualties of the terror, the attacks were not aimed against them; the number of Arabs who were injured or killed was very low relative to both the number of Jews who were injured or killed and to their numbers in the population.

**Sense of safety** Sense of safety was assessed by two items created for the study, querying respondents' sense of threat to themselves and their relatives. Based on a pilot telephone interview of a student sample, test-retest correlation for these two items were  $r=0.93$  and  $r=0.90$ , respectively.

These two questions were rated on a 5-point Likert scale. A response was considered positive if the participant indicated at least moderate agreement.

**Self-efficacy** A single item asking participants to indicate how much they believed that they would know what best to do if they were

caught in a terror attack assessed self-efficacy. Based on a telephone interview of a student sample, test–retest correlation for this item was  $r=0.90$ . This question was rated on a 5-point Likert scale. A response was considered positive if the participant indicated at least moderate agreement.

**Means of coping** Coping was assessed using a modified version of the COPE questionnaire [17]. A telephone pilot study using a student sample showed good test–retest properties over 2 weeks (Pearson  $r=0.83–0.98$ ;  $n=30$ ) for this version. The questionnaire consisted of 14 questions. Ten questions were originally taken from the COPE questionnaire and referred to distinct different means of coping: emotional social support/venting of emotions, instrumental social support, faith in God, acceptance, mental disengagement, denial, alcohol or cigarettes, tranquilizers, humor, engaging in activities. Questions were added to discern whether the participants had checked on the safety of relatives and/or friends, listened to the radio or watched television to get information, avoided television and radio news broadcasts, and sought help from friends or family. This questionnaire has acceptable statistical properties for the assessment of coping mechanisms and has been widely used in other studies of trauma [18–20]. A telephone pilot study using a student sample showed good test–retest properties over 2 weeks (Pearson  $r=0.83–0.98$ ). Participants were asked to indicate how often they used each means of coping on a 5-point scale. They were also asked whether they found each of the means of coping they endorsed helpful.

**Trauma-related and stress-related mental health symptoms** A modified version of the Stanford Acute Stress Reaction Questionnaire (SASRQ, [16]) was employed. The SASRQ has acceptable statistical properties and has been used in trauma-related surveys to assess TSR symptoms and symptoms of acute stress disorder (ASD). Our modified SASRQ had a Cronbach  $\alpha$  of 0.91. The questionnaire consists of five groups of questions representing the five PTSD clusters defined by DSM-IV criteria. The original version of the questionnaire consists of 30 statements, of which we have chosen 23 for this study. Each statement refers to a specific stress-related symptom or behavior. Participants were asked to rate the extent to which each statement applied to them on a 5-point Likert scale and to report for how long they had felt or behaved in the stated manner (2 days or less, less than a month, more than a month).

A symptom was considered relevant for TSR and PTSD if the individual at least “agreed” (third choice out of five) with the item and reported having had the symptom for at least 1 month. This standard was used for the analysis of the number of TSR symptoms and symptom criteria for PTSD and ASD. Because our observations were made using screening instruments and not on the basis of comprehensive clinical evaluations, the participants were not identified as having a clinical diagnosis of PTSD or ASD but as having an aggregation of symptoms that meet the criteria for PTSD and ASD.

**Feeling of depression** The survey attempted only to evaluate a general feeling of depression, not to diagnose depression. For that purpose, participants were asked only a single question: “How sad and gloomy do you feel?”

**Future orientation** Future orientation was assessed using two items drawn from the Future Orientation Scale [21]: optimism about personal future and about the future of Israel. Participants were asked to indicate the degree to which they agreed with the statements on a 6-point Likert scale. A response was considered positive if the participant indicated at least moderate agreement. Based on a telephone interview of a student sample ( $n=30$ ), test–retest correlations for these two items were  $r=0.90$  and  $r=0.92$ , respectively.

**Need for help** We asked the participants whether they currently felt a need for psychological or psychiatric treatment and whether they had phoned any of the hotlines asking for professional help. Respondents who answered “yes” to the second question were asked whether the contact had been helpful and whether they thought that they would use the hotlines in the future.

**Demographic characteristics** Data were collected on gender, age, education, year of immigration, income, religiosity, ethnic origin, place of residence, and place of birth.

## Results

The gender differences in exposure, objective threat, and responses to terror are presented in Table 1.

**Exposure** Significant gender differences were found in the reporting of exposure to acts of terror. In four of the six categories of exposure that were calculated based on the three questions asked, men reported higher exposure than women.

**Objective threat** No difference was found between men and women in any of the three objective threat measures.

**Posttraumatic symptomatology** Women ( $M=5.2$ ,  $SD=5.04$ ) reported suffering from a higher number of TSR symptoms than men ( $M=2.84$ ,  $SD=3.52$ ), and this gender difference was statistically significant ( $t=6.129$ ,  $df=508$ ,  $p=0.000$ ). In addition, more women than men reported suffering from at least one acute stress symptom.

The mean level of TSR symptoms was higher for women ( $M=22.24$ ,  $SD=16.11$ ) than for men ( $M=13.17$ ,  $SD=12.34$ ), ( $t=7.014$ ,  $df=495$ ,  $p=0.000$ ).

More women than men also reported suffering from at least one symptom in the three DSM IV symptoms clusters for PTSD: intrusive symptoms (criterion B), avoidance symptom (criterion C), and hyper-arousal symptom (criterion D). Women also reported more disruption in occupational functioning, but not in social functioning.

Although no significant difference was found in the number of men and women who reported at least one (out of four) dissociation symptom, women reported more such symptoms ( $M=0.49$ ,  $SD=0.91$ ) than men ( $M=0.31$ ,  $SD=0.61$ ), ( $t=6.47$ ,  $df=508$ ,  $p=0.000$ ). Depersonalization was more common among women, but no gender differences were found in the prevalence of derealization, amnesia, and emotional numbness.

Posttraumatic stress disorder was found to be six times more common among women than among men. The gender difference remained significant even after applying a higher cutoff point (i.e., when taking into account only the two highest response options).

Only one participant—a female—met symptom criteria for ASD.

**Feeling depressed** More women than men reported feeling depressed.

**Coping** The percentages of men and woman who used and were helped by the coping strategies examined are presented in Table 2. As can be seen, women were most

prone to checking on the whereabouts of friends and family, followed by talking to others about feelings aroused by the terror events. This order was reversed among men, who were most prone to cope by talking about the situation and what could be done about it and, next, most inclined to cope by checking on the whereabouts of friends and family.

Six of the coping strategies examined were more commonly endorsed by women than men: talking to others about feelings aroused by the terror events, checking on the whereabouts of friends and family, active search after social support, self-distraction through activity, avoidance of television and radio broadcasts, and faith in God. Higher percentages of men than women reported coping by talking about the situation and what could be done about it, by seeking information about the terror events, and by ignoring the attacks, but none of these differences reached significance.

Of the most popular coping strategies (i.e., strategies used by more than 50% of men and women), those the

women reported to be most effective were faith in God and checking on the whereabouts of friends, and those the men reported to be most effective were humor and checking on the whereabouts of friends and family. In addition, the women who used them found two of the more popular strategies more effective than the men who used them: talking about the situation and what could be done about it, and talking to others about their feelings.

In general, women ( $M=3.86$ ,  $SD=1.56$ ) reported using more coping strategies than men ( $M=3.52$ ,  $SD=1.47$ ), ( $t=2.57$ ,  $df=507$ ,  $p=0.01$ ).

*Future orientation* Men reported being more optimistic about their personal future and about the country's future.

*Sense of safety* Women reported being more afraid, both for their own safety and for the safety of those close to them.

**Table 1** Gender differences in exposure, threat, and response to terror

	Men (% , n)	Women (% , n)	$\chi^2$ (df, p)
<b>Exposure</b>			
Not exposed/do not know anyone exposed	(50.4%) 125	(60.4%) 157	
Not exposed/know someone exposed	(12.9%) 32	(11.2%) 29	
Not exposed/know someone hurt	(14.1%) 35	(18.1%) 47	
Exposed/do not know anyone exposed	(9.3%) 23	(5%) 13	
Exposed/know someone exposed	(5.2%) 13	(1.2%) 3	
Exposed/know someone hurt	(8.1%) 20	(4.2%) 11	(0.005, 5) 16.901**
<b>Objective threat</b>			
Residing in high-risk area	(17.5%) 45	(18.6%) 47	(0.75, 1) 0.098
Residing in urban area	(80.5%) 207	(78.3%) 198	(0.524, 1) 0.407
Of Jewish descent	(86.8%) 223	(87.4%) 221	(0.845, 1) 0.038
<b>Posttraumatic symptomatology</b>			
At least one acute stress symptom	(69.1%) 172	(83.9%) 219	(0.000, 1) 15.67***
At least one intrusive symptom	(27.3%) 68	(46.5%) 121	(0.000, 1) 20.147***
At least one avoidance symptom	(43.4%) 108	(66.9%) 174	(0.000, 1) 28.548***
At least one hyper-arousal symptom	(40.6%) 101	(57.9%) 151	(0.000, 1) 15.244***
Disruption in occupational functioning	(27.7%) 69	(39.6%) 103	(1, 0.005) 8.057**
Disruption in social functioning	(10.9%) 27	(15%) 39	(1, 0.174) 1.852
At least one dissociative symptom	(24.5%) 61	(29.2%) 76	(0.229, 1) 1.448
Depersonalization	(6.4%) 16	(16.5%) 43	(0.000, 1) 12.579***
Derealization	(6.4%) 16	(10%) 26	(0.147, 1) 2.108
Amnesia	(6.8%) 17	(11.1%) 29	(0.091, 1) 2.85
Emotional numbness	(12%) 30	(11.9%) 31	(0.953, 1) 0.004
PTSD	(2.7%) 7	(16.2%) 41	(0.000, 1) 27.179***
PTSD (higher criterion)	(1.2%) 3	(4.7%) 12	(0.017, 1) 5.71*
Feeling of depression	(45%) 112	(71.6%) 187	(1, 0.000) 37.361***
<b>Future orientation</b>			
Optimistic about your personal future	(86.7%) 216	(77.8%) 203	(1, 0.008) 6.993**
Optimistic about the country's future	(72.6%) 180	(61%) 158	(1, 0.006) 7.641**
<b>Sense of safety</b>			
Threat to your own life	(49%) 122	(71.4%) 185	(0.000, 1) 26.717***
Threat to the lives of those close to you	(56.5%) 139	(79.2%) 205	(0.000, 1) 29.795***
Sense of self-efficacy	(85.3%) 185	(63.8%) 136	(0.000, 1) 26.023***
<b>Help-seeking</b>			
Felt a need for treatment	(3.9%) 10	(6.8%) 17	(0.157, 1) 2.006
Called a hotline (past)	(13.4%) 33	(11.2%) 29	(0.438, 1) 0.601
Called a hotline and was helped	(17.6%) 6	(10.3%) 3	(1, 0.409) 0.682
Think I will call a hotline in the future	(8.8%) 21	(19.5%) 46	(0.001, 1) 11.111***

\* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

*Self-efficacy* More men than women felt they would function well in the context of a terror attack.

*Help-seeking behavior* No significant difference was found in the percentages of men and women who felt a need for professional psychological help; nor was there a significant difference in the percentage of men and women who had phoned a hotline. More women than men, however, reported that they might call a hotline in the future. Among those who called a hotline in the past, no difference was found in the percentages of men and women who had reported the hotline helpful (see Table 1).

## Regression analyses

In order to assess the direct and aggregated contributions of sociodemographics, exposure, sense of safety, and coping to the psychological responses to the trauma, three regression analyses were performed: two linear regressions—one on TSR symptoms, the other on depression—and one logistic regression on PTSD symptoms. In each regression analysis, the significant predictors in the seven groups of variables studied (demographics, exposure, objective risk, means of coping, self-efficacy, future orientation, and sense of safety) were tested for inclusion in the final models. Nonsignificant variables were removed from analysis to provide for the most parsimonious model. The regression models are presented in Table 3.

All three regression models showed associations between all three dependent variables (TSR symptoms, feeling depressed, and PTSD) and gender, sense of safety, coping via use of tranquilizers, and coping via use of alcohol and cigarettes. In addition, the analyses showed that coping by avoiding television and radio was associated with the number of TSR symptoms and

with feeling depressed. Age was also associated with feeling depressed. Due to sample size considerations, we could not validate the logistic regression model for symptoms of PTSD.

## Discussion

The findings of this study indicate that terror is not gender-blind and that men and women differ in their exposure to terror and in the way they perceive the threat and cope with it. Although women are less exposed to terror events than men, these events, nonetheless, arouse in them a stronger sense of danger, both for themselves and for the people who are close to them. In addition, women report signs of greater psychological vulnerability—expressed in depressive and posttraumatic symptoms—in comparison to men. It was also found that men were more optimistic than women regarding their—as well as their country's—future and that they have greater confidence in their ability to cope with terror events in comparison to women. Finally, the findings reflect gender differences in patterns of coping with terror. Among other things, it was found that women tend more than men to talk about their feelings and to check on the whereabouts of their friends and family.

The finding that women are more vulnerable than men to the psychological squeal of terror events and that they have a much higher chance of suffering from posttraumatic symptoms—six times higher—is congruent with most of the studies that assessed gender differences in reaction to traumatic events. Some of the previous studies have found that the rate of lifetime prevalence of PTSD among women is double that among men beyond different kinds of traumatic events [2, 3]. When current PTSD was assessed, it was also found that women were more vulnerable than men

**Table 2** Use and helpfulness of coping by gender

Coping strategy	Women who used (% , n)	Women helped (% , n)	Men who used (% , n)	Men helped (% , n)	$\chi^2$ (df, p) for using	$\chi^2$ (df, p) for being helped
Checking on friends and family	(87.7%) 228	(83.2%) 188	(78%) 192	(82.3%) 153	(0.004, 1) 8.333**	(0.804, 1) 0.062
Talking about the situation and about what can be done	(79.9%) 207	(47.8%) 99	(83.1%) 206	(34.3%) 70	(0.363, 1) 0.828	(0.005, 1) 7.748**
Talking to others about feelings	(82.3%) 214	(60.6%) 129	(69.8%) 173	(48%) 82	(1,0.001) 11.017***	(0.014, 1) 6.093*
Accepting and coming to terms with the situation	(75.8%) 197	(65.3%) 128	(74.5%) 184	(60.8%) 110	(0.74, 1) 0.11	(0.362, 1) 0.831
Search for information	(62.7%) 160	(51.9%) 82	(66.3%) 163	(55.1%) 86	(0.411, 1) 0.675	(0.566, 1) 0.329
Faith in God	(66.8%) 173	(85.5%) 147	(53.4%) 133	(81.2%) 108	(0.002, 1) 9.491**	(0.319, 1) 0.994
Humor	(48.6%) 126	(82.5%) 104	(53.2%) 132	(84.4%) 108	(0.303, 1) 1.062	(0.694, 1) 0.155
Trying to ignore the situation	(42.6%) 110	(59.1%) 65	(50.6%) 126	(67.7%) 84	(0.072, 1) 3.232 (1, 0.000) 20.792***	(0.17, 1) 1.886
Self-distraction through activity	(47.3%) 123	(84.4%) 103	(27.7%) 69	(85.5%) 59	(0.000, 1) 20.792***	(0.841, 1) 0.04
Avoiding TV and radio	(37.7%) 98	(61.2%) 60	(26.3%) 65	(60.3%) 38	(0.006, 1) 7.515**	(0.908, 1) 0.013
Support from family and friends	(28.5%) 74	(90.5%) 67	(10.1%) 25	(69.6%) 16	(0.000, 1) 27.331***	(0.012, 1) 6.251*
Tranquilizers	(8.8%) 23	(91.3%) 21	(5.2%) 13	(76.9%) 10	(0.111, 1) 2.543	(0.231, 1) 1.436
Alcohol or cigarettes	(5.8%) 15	(57.1%) 8	(5.2%) 13	(63.6%) 7	(0.786, 1) 0.074	(0.742, 1) 0.108

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

[22]. Studies have also revealed that, following traumatic events, women suffer from higher levels of depression and anxiety than men [1].

In an attempt to explain the gender differences in vulnerability, one has to look at variables that traditionally play a role in trauma, such as exposure. Studies conducted during the past decade in various countries mostly indicate that men are more highly exposed to traumatic events than women. In these studies, a higher percentage of men than women reported having been exposed to at least one traumatic event during their lifetime [3, 12, 22]. Interestingly, although terror seemingly attacks its victims “blindly”, men were found to be more widely exposed to it than women. It

is possible that men are more mobile and are spending more time in public places, including high risk areas, whereas women are more confined to their home and work place. In any event, differential exposure cannot be regarded as a possible explanation for women’s elevated vulnerability.

Subjective assessment of both the magnitude of the threat and one’s ability to cope with it may also contribute to gender differences in posttraumatic distress. Findings of this study show that terror attacks are perceived as more threatening by women than by men. Furthermore, women also perceive their ability to cope with the terror as less efficacious. The connection between perceived low ability to cope and the psycho-

**Table 3** Regression models

Variable	TSR symptoms <sup>b</sup>		Feeling depressed <sup>b</sup>		PTSD <sup>a</sup>	
	Beta	R <sup>2</sup> change	Beta	R <sup>2</sup> change	Odds ratio	95% CI
Step 1		7.4***		10.0***		
Gender	-0.28***		-0.32***		7.19***	3.0–17.4
Step 2		1.3**		1.9**		
Gender	-0.27***		-0.32***		4.76***	1.9–11.8
Born in Israel/abroad	0.12**					
Sense of safety					2.16***	1.5–3.1
Age			0.14**			
Step 3		12.6***		4.9***		
Gender	-0.15**		-0.24***		5.62***	2.2–14.5
Born in Israel/abroad	0.10*					
Sense of safety	0.38***		0.23***		1.97***	1.4–2.8
Coping/Tranquilizers					1.94***	1.3–2.8
Age			0.12***			
Step 4		11.8***		2.7***		
Gender	-0.13**		-0.23***		5.54***	2.1–14.5
Sense of safety	0.36***		0.23***		2.10***	1.5–3.0
Coping/Tranquilizers	0.35***		0.17***		1.78***	1.2–2.7
Coping/Cigarettes and alcohol					1.85***	1.2–2.8
Age			0.09			
Step 5		2.1***		1.7**		
Gender	-0.14**		-0.22***			
Sense of safety	0.33***		0.22***			
Coping/Tranquilizers	0.31***		0.16***			
Coping/Cigarettes and alcohol	0.15***					
Age			0.11*			
Coping/Faith in God			0.14**			
Step 6		1.7***		1.0*		
Gender	-0.13**		-0.21***			
Sense of safety	0.31***		0.20***			
Coping/Tranquilizers	0.30***		0.16***			
Coping/Cigarettes and alcohol	0.16***					
Avoiding TV and radio	0.13**		0.10*			
Coping/Faith in God			0.13**			
Age			0.12**			
Step 7		1.0**				
Gender	-0.12**					
Sense of safety	0.31***					
Coping/Tranquilizers	0.30***					
Coping/Cigarettes and alcohol	0.16***					
Avoiding TV and radio	0.12**					
Coping/Faith in God	0.10**					

Place of birth was omitted in step 4 after it lost its significance

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

<sup>a</sup> Logistic regression

<sup>b</sup> Linear regression

logical reactions to stressful events was already documented in the past [8, 9], and may account, at least partly, for our findings. Women who perceive terror attacks as highly threatening while also seeing themselves as having insufficient coping abilities are likely to experience terror attacks as especially distressing.

The gender differences in appraisal processes and particularly in self-efficacy may be attributable, at least partly, to gender roles as they are embedded in Israeli society. As was noted, societies that cultivate traditional world views regarding gender roles reinforce a polarization of sex roles [13]. This kind of polarization has been observed in Israeli society, in which military service and combat experiences clearly differentiate between men and women [23]. Studies showed that, in time of war, traditional gender roles are reinforced, as men became more “masculine” and women more “feminine.” This was reflected also in terms of their perceptions of vulnerability vs. ability to cope with the stress of war [24]. Wars and terror clearly differ with regard to ascribed sex roles. In war, men go out to fight and women stay at home. Terror, on the other hand, hits men and women in the same setting. However, both war and terror are conceived as “security-related events” and thus reactivate traditional gender roles in a similar way.

Gender differences in posttraumatic distress may be related to the relative effectiveness of men’s and women’s coping strategies in the face of terror. Our findings indicate that men and women differ in their coping strategies, while at least partly supporting the “emotion-focused coping” vs. “problem-focused coping” distinction that was discussed in previous research [10, 11, 25]. It seems that women have a stronger need to express feelings aroused by the terror attacks and tend more than men to seek out social support and to worry about those close to them. Women’s reliance upon social support and social ties as a means of coping with stressful events is a recurring theme in previous studies [11, 26]. However, one must keep in mind that women do not only derive support from their social network—they also worry about it. Women tend to be more influenced than men by adversity that affects others [27, 28]. According to Greenglass [29], this aspect of women’s interpersonal behavior requires a broader definition of the coping concept, so that it would include not only actions meant for the alleviation of one’s own distress, but also those meant for the alleviation of other people’s distress. This tendency may increase rather than decrease women’s distress because it involves aggregated worry and fear for others as well as for oneself. As for men, although not indifferent to others, they nonetheless tend to focus more on the terror event itself and on the details related to it.

Although not statistically significant, differences were found between men’s and women’s tendency to talk about the situation and what can be done about it.

The findings of this study still indicate that these were more commonly endorsed by men, but not by women. Coping by searching for information about the terror event is also ranked a little higher among men in comparison to women, although again, this difference is not significant. It is possible that the higher priority given by men to these coping strategies allows them to preserve valuable emotional resources. This is congruent with other studies that found that a “problem-focused” coping style serves as a buffer from pathological effects of stress for men [30]. The role of this coping in the context of terror is especially intriguing since the devastating and sudden nature of terror attacks does not leave much room for instrumental solutions—at least not in the short run.

Finally, a number of other coping strategies endorsed more frequently by women than by men were found to be correlated with posttraumatic symptoms. One of those strategies is avoiding TV and radio broadcasts covering terror attacks. Interestingly, other studies that assessed indirect exposure to terror via television [6] found a positive correlation between number of watching hours and posttraumatic symptomatology. A possible explanation for our findings is that individuals who were most traumatized by terror are also the ones who avoided further exposure to any reminders of terror including watching TV. This is also consistent with previous studies in which the traumatized reported deliberate avoidance of exposure to cues reminiscent of their traumatic experience, including exposure to media coverage, which they found unbearable. These studies are congruent in implying that excessive exposure to media broadcast of horrific traumatic events is detrimental, as it may both bring about and exacerbate distress.

The present study attempted to shed light on gender differences in terror-induced posttraumatic reactions. We used a representative national sample of the Israeli population and collected data at the height of the Al-Aqsa Intifada. At the same time, a number of methodological limitations should not be overlooked, particularly reporting bias. As was mentioned, men traditionally report less distress and weakness than women, and this study used only self-report measures of distress. In addition, it should be noted that the present study focused on only a limited number of PTSD predictors and did not include factors such as social support and peri-traumatic life stress, which were found to be related to PTSD in the past (e.g., [4]).

Nowadays, as millions all over the world are threatened by terror, there is a need for more studies that will assess the coping processes and the psychological effects of terror. Future research should identify the intricacies of coping with ongoing terror, which existing coping theory and measures cannot fully tap. Such studies can deepen our understanding on vulnerability and resilience employing gender and developmental perspectives.

■ **Acknowledgement** We would like to thank Danny Horesh for his help in the preparation of the manuscript.

## References

1. Palinkas LA, Petterson JS, Russell J, Downs MA (1993) Community patterns of psychiatric disorders after the Exxon Valdez oil spill. *Am J Psychiatry* 150(10):1517–1523
2. Breslau N, Kessler RC, Chilcoat HD, Schultz LR, Davis GC, Anderski P (1998) Trauma and posttraumatic stress disorder in the community: the 1996 Detroit area survey of trauma. *Arch Gen Psychiatry* 55:626–632
3. Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson CB (1995) Posttraumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry* 52(12):1048–1060
4. Brewin CR, Andrews B, Valentine JD (2000) Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *J Consult Clin Psychol* 68(6):748–766
5. DeLisi LE, Maurizio A, Yost M, Papparozi CF, Fulchino C, Katz CL, Altesman J, Biel M, Lee J, Stevens P (2003) A survey of New Yorkers after the Sept. 11, 2001, terrorist attacks. *Am J Psychiatry* 160(4):780–783
6. Schlenger WE, Caddell JM, Ebert L, Jordan BK, Rourke KM, Wilson D, Thalji L, Dennis JM, Fairbank JA, Kulka RA (2002) Psychological reactions to terrorist attacks: findings from the National Study of Americans' Reactions to September 11. *JAMA* 288(5):581–588
7. Bar-Tal Y, Lurie O, Glick D (1994) The effect of gender on the stress process of Israeli soldiers during the Gulf War. *Anxiety Stress Coping Int J* 7(3):263–276
8. Benight CC, Harper LL (2002) Coping self-efficacy perceptions as a mediator between acute stress response and long-term distress following natural disasters. *J Trauma Stress* 15(3):177–186
9. Benight CC, Swift E, Sanger J, Smith A, Zeppelin D (1999) Coping self-efficacy as a mediator of distress following a natural disaster. *J Appl Soc Psychol* 29(12):2443–2464
10. Karanci AN, Alkan N, Askit B, Sucuoglu H, Blata E (1999) Gender differences in psychological distress, coping, social support and related variables following the 1995 Dinar (Turkey) earthquake. *N Am J Psychol* 1(2):189–204
11. Ptacek JT, Smith RE, Dodge KL (1994) Gender differences in coping with stress: when stressor and appraisals do not differ. *Pers Soc Psychol Bull* 20(4):421–430
12. Gavranidou M, Rosner R (2003) The weaker sex? gender and post-traumatic stress disorder. *Depress Anxiety* 17:130–139
13. Norris FH, Perilla JL, Ibanez GE, Murphy AD (2001) Sex differences in symptoms of posttraumatic stress: does culture play a role? *J Trauma Stress* 14(1):7–28
14. Bryant RA, Harvey AG (2003) Gender differences in the relationship between acute stress disorder and posttraumatic stress disorder following motor vehicle accidents. *Aust N Z J Psychiatry* 37(2):226–229
15. The Central Bureau of Statistics (2001) Statistical abstract of Israel. The Central Bureau of Statistics, Jerusalem
16. Cardena E, Classen K, Spiegel D (1991) Stanford Acute Stress Reaction Questionnaire. Stanford University Medical School, Stanford, CA
17. Carver CS, Scheier MF, Weintraub JK (1989) Assessing coping strategies: a theoretically based approach. *J Pers Soc Psychol* 56:267–283
18. Bleich A, Gelkopf M, Solomon Z (2003) Exposure to terrorism, stress-related mental health symptoms, and coping behaviors among a nationally representative sample in Israel. *JAMA* 290(5):612–690
19. Murphy SA, Johnson LC, Chung IJ, Beaton RD (2003) The prevalence of PTSD following the violent death of a child and predictors of change 5 years later. *J Trauma Stress* 16(1):17–25
20. Schauben LJ, Frazier PA (1995) Vicarious trauma: the effects on female counselors of working with sexual violence survivors. *Psychol Women Q* 19(1):49–64
21. Saigh PA (1997) A comparative analysis of the future orientation ratings of traumatized youth. In: Saigh PA (ed) Current research on child adolescent posttraumatic stress disorder. Symposium conducted at the Annual Meeting of the International Society of Traumatic Stress Studies, Montreal Canada
22. Stein MB, Walker JR, Forde DR (2000) Gender differences in susceptibility to posttraumatic stress disorder. *Behav Res Ther* 38(6):619–628
23. Bar-Yosef R, Padan-Eisenstrak D (1977) Role system under stress: sex-roles in war. *Soc Probl* 25:135–145
24. Solomon Z (1995) Coping with war-induced stress: the Gulf War and the Israeli response. Plenum, New York
25. Folkman S, Lazarus RS (1980) An analysis of coping in a middle-aged community sample. *J Health Soc Behav* 21(3):219–239
26. Hobfoll SE, Dunahoo CL, Ben-Porath Y, Monnier J (1994) Gender and coping: the dual-axis model of coping. *Am J Community Psychol* 22(1):49–82
27. Dohrenwend BS, Dohrenwend BP (1976) Sex differences and psychiatric disorders. *AJS* 81:1447–1472
28. Strobe MS, Strobe W (1983) Who suffers more? Sex differences in depressive symptomatology: a community study. *J Health Soc Behav* 14:291–299
29. Greenglass ER (1995) Gender, work stress, and coping: theoretical implications. *J Soc Behav Pers* 10(6):121–134
30. Hovanitz CA, Kozora E (1989) Life stress and clinically elevated MMPI scales: gender differences in the moderating influence of coping. *J Clin Psychol* 45(5):766–777