This study assessed women’s vulnerability to the threats of terrorism; 326 Israeli citizens (198 women and 128 men) from cities that were hit hard by terrorist violence were interviewed to identify their level of exposure to terrorist events, symptoms of posttraumatic distress, and coping styles. Although the women were less exposed to terrorist events than were the men, they reported higher levels of indirect and subjective exposure (such as helping survivors or having the sense of a lucky escape). They suffered higher levels of negative mood and posttraumatic distress and reported using coping behaviors, particularly problem-solving strategies, more intensely than did the men. The results are discussed from the sociological and feminist perspectives.

**Keywords**: coping; Israel; terror; women

The long-lasting conflict between Israel and the Palestinians has been marred by countless events of bloodshed. Since September 2000, Israel has faced an unprecedented campaign of terror attacks known as the Al-Aqsa Intifada. These hostilities have resulted in the loss of more than 1,000 lives, many thousands of casualties, and a deep sense of national crisis. Data for the study presented here were collected at the zenith of this wave of violence in mid-March 2002 following 93 attacks during the first quarter of that year alone.

We interviewed citizens in the six metropolitan areas that were most affected by the violence: Jerusalem, Haifa, Tel-Aviv, Netanya, Afula, and Hadera. The goal of the study was to explore the gender effect on the reported levels of exposure to terrorist attacks, ways of coping with these threats, and concomitant effects on mood and posttraumatic symptoms.

**Review of the Literature**

**Gender Differences in Response to Traumatic Stress**

The psychological effects of terrorism on threatened civilians have not been extensively investigated in the literature, and descriptions of gender differences in response to terrorist attacks have been even sparser. Gidron (2002) reported that the prevalence of posttraumatic stress disorder (PTSD) after terrorist attacks worldwide is estimated to be approximately 28%. Consistent with these results, Galea et al. (2002), who interviewed 1,008 adults in Manhattan after the September 11, 2001, terrorist attacks, showed a substantial burden of
acute PTSD and depression in the population after the attacks. Experiences involving exposure to the attacks were predictors of current PTSD, and losses as a result of the events were predictors of current depression.

Research findings on gender differences in response to traumatic events have been equivocal. Several studies have not identified any gender differences (Amirkhan, Risinger, & Swickert, 1995; Aranda, Castaneda, Lee, & Sobel, 2001; Lomranz, Hobfoll, Johnson, & Eyal, 1994). Many researchers, however, have reported a female-to-male lifetime prevalence ratio of as high as 2:1 for PTSD symptoms, even when levels of exposure are lower in women than in men (Ai, Peterson, & Ubelhor, 2002; Ben-Zur & Zeidner, 1991; Breslau, 2001, Fullerton et al., 2001; Karanci, Alkan, Aksit, Sucuoglu, & Balta, 1999; Saxe & Wolfe, 1999; Seedat & Stein, 2000). These data appear to be consistent with a review of 180 articles and chapters on 130 distinct samples involving more than 50,000 individuals in 80 different traumatic events (Norris et al., 2002). The review revealed that in the aftermath of disasters, women appear to be at a greater risk than men of developing long-term psychological problems, especially PTSD. The effects of gender were found to be the greatest in samples from traditional cultures and within the context of severe exposure. Conversely, Freedman et al. (2002) concluded that women do not have a greater sensitivity to traumatic stress but, rather, normally accentuate responses to specific elements of some traumatic events. Their assertion seems consistent with the social-cognition perspective that suggests mechanisms by which men may minimize the impact and report of trauma to themselves and others (Saxe & Wolfe, 1999).

**Gender Differences in Coping With Traumatic Events**

Coping strategies reflect individual cognitive, emotional, and behavioral efforts to manage internal and external demands of a stressful situation (Lazarus & Folkman, 1984). Two major categories of coping strategies have been consistently identified in the literature: problem-focused coping, which is designed to manage or solve the problem by “removing” the stressor, and emotion-focused coping, which is designed to reduce or eliminate the emotional stress associated with the situation. Theory and research suggest that problem-focused coping tends to predominate when people feel that something can be done to manage or control the situation, whereas emotion-focused coping predominates when people feel that nothing can be done about the situation (Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984; Zeidner, 1993).

Studies on gender differences in ways of coping with stress have been inconclusive and complex. Some studies have found that men used more problem-focused coping strategies than did women (Angst et al., 2002; Karanci et al., 1999). In a study on gender differences in the use of social support, problem solving, and avoidance and their effect on stress and depression, Felsten (1998) showed that women used social support slightly more than did men, but that there were no differences in the use of problem-solving and avoidance coping styles. Felsten also reported a slight positive correlation between stress and depression and stress and the predominance of problem-solving strategies.

In a meta-analytic review, Tamres, Janicki, and Helgeson (2002) examined studies of sex differences in coping with stress. They found that women make greater use of a variety of coping behaviors than do men. Similarly, Ben-Zur and Zeidner (1991) compared the coping patterns of Israeli men and women following Iraqi missile attacks on Israel during the 1991 Gulf War, as well as those used to cope with normal daily hassles. They found that during missile attacks, women used a greater variety of coping strategies, both active coping and
problem-focused strategies, whereas men used more emotion-focused coping. This pattern of gender differences in coping was reversed for coping with daily stressors after the war.

**Goals and Hypotheses**

Our study investigated the psychological reactions of Israeli civilians under real-time threat conditions, with the aim of determining if women and men are differentially exposed to the perils of terror and if their ways of coping with the threat of terrorism and the resulting psychological outcomes differ. On the basis of prior research, we hypothesized that compared with men, Israeli women would (1) report higher levels of perceived exposure to terrorism, (2) be more psychologically affected by the traumatizing events, and (3) report a more intense use of coping strategies. We also hypothesized that women and men would employ similar coping strategies.

**Method**

**Procedure**

During the two-week period of data collection, 602 telephone calls were made, of which 545 were answered by people who met our inclusion criteria. The other 57 telephone calls were not answered, were disconnected, or were answered by non-Hebrew-speaking immigrants or minors. We excluded 7 Hebrew-speaking minors, 10 Russian-speaking adults (7 women and 3 men) and 5 adults (4 women and 1 man) who answered in Hebrew that they did not speak the language. The final sample totaled 327 respondents who gave verbal consent to participate in the study, representing a 60% response rate. There were no differences in the response rates across the sampling zones. Although a higher response rate would have been desirable, our response rate was in line with previous findings that the mean response rate among surveys on health research and service were also approximately 60% (Asch, Jedrziewski, & Christakis, 1997, Smith, Chey, Jalaludin, Salkeld, & Capon, 1995).

To assess the similarity of our sample to the general Israeli population, we consulted the *Statistical Abstract of Israel* (Israel Bureau of Statistics, 2002). The average age of the respondents was 42.5 years, which was almost identical to the average in the general Israeli population. The average respondent (aged 42.4 years) had 13.6 years of education, compared with 13.1 years in the general Israeli population of a similar age. The gender ratio of the respondents was 60% women and 40% men, compared with 51% women and 49% men in the general population. Nevertheless, no statistically significant differences between the sexes were found in terms of age, level of education, or ethnicity. More men in the sample were single.

**Measures**

Acknowledging our plausible political bias, Israelis who study the Israeli-Palestinian conflict, we minimized the use of new instruments and tried to base most of the measures on existing and well-known instruments. The measures for the study were compiled to form a structured interview that was designed to address our specific research questions. The following domains were investigated: (1) demographic information, (2) exposure to terror attacks, (3) modes of coping, (4) mood, (5) symptoms of trauma/PTSD, and (6) shifts in political views. Previous experience with peritraumatic research in Israel taught us that telephone
interviews with citizens under the strain of military threats cannot last more than 30 minutes if dropout is to be minimized (Somer, Keinan, & Carmil, 1996). The design of our study instruments reflects efforts to achieve an optimal balance between accuracy and brevity.

**Demographic information.** Demographic data included age, gender, marital status, number of children, country of origin, year of immigration, city of residence, and level of education.

**Index of Exposure to Terror (IET).** The IET included several aspects of exposure to terror in Israel. We asked the respondents to provide information in the following areas, each answered by yes or no, in regard to the terror attacks that had taken place during the Al-Aqsa Intifada (with a description of and information on other types of exposure invited if they answered in the affirmative): objective or direct exposure to terror (e.g., “Were you present on-site during a terror attack? (such as a shooting or a bombing). We also inquired about subjective or indirect exposure to the threat of terror (e.g., “Have you passed by the scene of a terror attack shortly after the event and witnessed signs of carnage and/or property damage?”). On the basis of this information, we divided our sample into two groups: 54 people who reported objective exposure to terror and 273 people who reported subjective exposure to terror.

**Coping With Terror Scale (CTS).** Lazarus (1991) developed the Ways of Coping Checklist (WCC) in the 1970s that was based on the transactional model of stress, which posited two types of coping: problem focused and emotional regulation. The WCC has always had a drawback: The number of factors obtained changes from one sample to the next or from one stressor to another (Parker & Endler, 1992). This common problem with the measurement of coping underscores an unresolved issue: disposition versus situation. To attain maximum pairing between stress experiences and types of coping, we prudently attempted to adjust the measurement of coping to the specific context of the Al-Aqsa Intifada. The items in the CTS were therefore based on the outcome of focus groups that were facilitated by the first author with 16 Israeli citizens residing in one of the terror-afflicted cities concerning their particular ways of coping with the threat of terrorist attacks (for a more detailed description of the development of the CTS, see Somer, Ruvio, Sever, & Soref, 2007).

The final instrument included 10 coping tactics. These tactics were (1) direct action/confrontive coping (e.g., purchasing a handgun), (2) planning (e.g., enhancing chances of survival by choosing the safest seats on a bus or in a restaurant), (3) distraction/mental disengagement (e.g., absorption in various modes of entertainment), (4) self-care (e.g., engaging in sports or yoga), (5) renouncing public places/restraint coping, (6) seeking social interaction, (7) purposefully avoiding news coverage on terrorist events/behavioral disengagement, (8) acceptance (i.e., learning to live with the situation), (9) turning to God, and (10) ignoring the situation. The strategies for coping with terror were evaluated on a 5-point Likert scale. The respondents were asked to indicate how much each statement reflected their coping tactics during the month of March 2002, ranging from 1 (not at all) to 5 (very much). The Cronbach’s alpha for this heterogeneous scale was .66.

After ensuring content validation, we conducted an exploratory factor analysis to detect the internal structure of and the relationships between the coping variables. Of the 10 items, 2 were dropped from the analysis because of low reliability values (e.g., a widely endorsed item that did not differentiate between groups) and were not included in the factor analysis. A principal component analysis using Varimax rotation with Kaiser normalization was
Three factors were extracted: emotion-focused coping; problem-solving coping; and acceptance, an assessment-focused way of coping, explaining about 66% of the total variance, with factor loadings ranging from 0.533 to 0.905 (detailed results are available from us on request). These results underline the structure validation of this measurement. The factors corresponded with previously formulated concepts about ways of coping (Carver et al., 1989; Folkman & Lazarus, 1980) and were in line with the dimensions proposed in the model by Billings and Moos (1981; Moos & Billings, 1982), who divided coping processes into three categories (assessment focused, problem focused, and emotions focused).

The Hebrew Mental Health Inventory (H-MHI). This is the Hebrew version of the Mental Health Inventory-5 (MHI-5; Berwick et al., 1991). To ensure fidelity, the MHI-5 was adapted and translated into Hebrew and then back translated by two bilingual professionals. The MHI-5 performed as well as or better than three lengthier psychopathology screening questionnaires (the 18-item MHI, the 30-item General Health Questionnaire, and the 28-item Somatic Symptom Inventory). We regarded the H-MHI-5 as a measure of mood, rather than of mental health. This tool (that is, the Negative Mood Index, NMI) was chosen as an index of negative mood because of its good psychometric properties and conciseness. The NMI demonstrated internal consistency (Cronbach’s alpha = .63). However, when we removed the unreliable Item 4, we obtained a 4-item H-MHI scale with an internal consistency (Cronbach’s alpha) of =.70. The final 4-item H-MHI was used in this study.

The Impact of Event Scale—Revised Version—Brief (IES-R-B). The IES-R (Marmar, Weiss, Metzler, Ronfeldt, & Forman, 1996; Weiss, Marmar, Metzler, & Ronfeldt, 1995) is a measure that was designed to fit the symptoms criteria for PTSD in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994). The original instructions provided by Weiss and Marmar (1997) indicate that it is intended to measure “difficulties people sometimes have after stressful life events.” The instructions given to the respondents in our study were to “read each item and then indicate how distressing each difficulty has been for you DURING THE PAST SEVEN DAYS with respect to recent terrorist attacks.” We used a shorter version of the instrument, more suitable for a telephone study, that we described elsewhere (Somer, Revis, Soref, & Sever, 2005). The Cronbach’s alpha coefficient of the IES-R-B that was calculated in this study was .70.

In addition to the IES-R-B total score and subscales, we also created an additional outcome variable. Because the IES-R-B is an abbreviated tool and we wanted to assess post-traumatic distress (PTD), not PTSD, we reduced the number of required item endorsements to meet the DSM-IV criteria for inclusion in the PTD variables that we generated. We created a binary severe PTD score, a possible PTSD “caseness” indicator. In this group, we included individuals who scored 4 or 5 (out of 5) on at least one intrusion item (one intrusion item is required in the DSM-IV criteria for PTSD), at least two avoidance items (DSM-IV requires at least three), and at least one hyperarousal item (at least two are required by DSM-IV).

Results

Reported and Perceived Levels of Exposure to Terror

Table 1 presents descriptive data on both the reported and perceived levels of the respondents’ exposure to potentially traumatizing terrorist events. The women reported lower
levels of exposure to terrorist violence and its aftermath than did the men. Of the 32 respondents who were on-site during a terrorist attack, 20 were men and 12 were women (15.6% and 6%, respectively). Of the 5 respondents who were physically injured by terrorist violence, 3 were men and 2 were women (2.3% and 1%, respectively).

When the sexes were compared on the perceived levels of exposure, the women scored higher than the men on two of the four indices. As Table 1 shows, of the 42 individuals who provided some kind of physical or emotional help to a victim of terrorism, 33 (16.7%) were women. This difference in perceived exposure was statistically significant ($\chi^2 = 6.43, p < .01$). Furthermore, among those who reported knowing someone who was on-site during a terrorist attack, 93 (47%) were women and 52 (40.6%) were men.

An opposite trend was noted in the other two indices. The men scored higher than the women in their subjective feeling of having escaped a terror attack by luck ($\chi^2 = 10.32, p < .00$). Among those who stated that they were exposed to the damaged site shortly after the terrorist attack, 41.4% were men and 32.8% were women. However, these trends did not reach statistical difference ($\chi^2 = 1.14$, n.s.; $\chi^2 = 2.48$, n.s., respectively). These results render partial support for our first research hypothesis. The women tended to report higher levels of perceived exposure in regard to knowing or helping victims of terrorist attacks. In contrast, the men reported more direct exposure to these events.

### Negative Mood and Posttraumatic Symptoms

The mean NMI total score was 3.21 for women and 2.83 for men. This difference supports our second research hypothesis. To determine the prevalence of severe or extreme levels of negative mood, we counted the respondents who reportedly experienced distress “most of the time” or “all the time” (scores of 4 or 5 on the NMI). Table 2 shows that the women reported greater emotional tension ($M = 3.78$) and deeper sadness ($M = 2.64$) than did the men. Table 2 provides further support for our second hypothesis by showing that the women suffered higher levels of PTD than did the men, with a mean total IES-R-B score of 1.82 for the women and only 1.28 for the men. Both the women and men suffered most from intrusive symptoms ($M = 2.53$ and $M = 1.90$, respectively). A t-test was used to assess differences between the sexes.
Coping Styles

Table 3 shows the patterns and intensity of coping adopted by the women and men. A t-test was used to assess the differences between the sexes. These data are in line with our third hypothesis—that women tend to use coping strategies more intensely than do men. The mean total scores for both problem-focused and emotion-focused coping strategies for the women were significantly higher than those for the men. The women chose problem-focused strategies as their preferred style of coping.

The respondents’ most highly and most frequently endorsed way of coping was “acceptance” (e.g., “I have learned to live with this situation”), with no significant differences...
between the women and the men (\(M = 3.55\) and \(M = 3.59\), respectively). The second most frequently endorsed coping tactic by both sexes was that of “confronting coping” (e.g., “I did some things that were directly related to the situation” and “I purchased a gun”). The women scored significantly higher on confronting coping than did the men (3.25 and 2.84, respectively). The women and men also differed on their most frequently used coping tactic: The women reported “seeking social support,” whereas the men reported coping through “planning.”

Of all the coping tactics, the greatest gender difference was found for “seeking social support” (3.07 for the women and 2.42 for the men). The two least-used coping styles were emotion-focused: “behavioral disengagement” for women and “self-care” for men.

**Discussion**

After 18 months of continuous violence against Israeli civilians, the months of March and April 2002 marked a peak in the campaign of terror that had targeted Israeli civilians. At the height of this period, we launched our study to investigate, under real-time conditions, gender differences in the exposure to these events, symptoms of PTD, and coping styles. As we hypothesized, the results showed that the women suffered higher levels of negative mood and PTD than did the men. The women reported greater emotional tension, deeper sadness, and higher levels of distress than did the men as a result of the continuous life-threatening stressful environment. These results conform to previous findings of women’s higher psychological vulnerability in confronting stress-related situations, even when their level of exposure is lower than that of men (Ai et al., 2002; Ben-Zur & Zeidner, 1991; Breslau, 2001; Fullerton et al., 2001; Karanci et al., 1999; Saxe & Wolfe, 1999; Seedat & Stein, 2000).

It has been argued that women’s excessive emotional risk begins at the stage of the subjective interpretation of disaster events, rather than at the stage of the objective exposure to stressors (Norris et al., 2002). Our data show that the women reported a lower level of direct exposure to terror attacks and were less present on-site or physically injured by terrorism than were the men. Nevertheless, they seemed to perceive that they had more exposed than men when two of four subjective indices were compared; they reported knowing victims of terror and providing more physical or emotional help to them. It seems that this perception of exposure promotes women’s vulnerability to stress and heightens their risk of developing psychological symptoms in the aftermath of terror. These data are consistent with the social-cognition perspective, which suggests that men may minimize the impact of trauma for themselves and for others (Saxe & Wolfe, 1999). Studies on the subjective appraisal of natural disasters have found that women tend to estimate earthquakes and hurricanes as lasting significantly longer and as being more potent than do men (Norris et al., 2002). Similar distinctions probably contribute to the gender differences in the emotional outcomes of traumatic stress in this and previous studies.

Despite the gender differences in the psychological outcomes of terrorism, both sexes reported that “acceptance” was the most highly and most frequently endorsed coping strategy. We posit that this strategy reflects the demanding process of adjustment to life under the constant threat of terror and the sober realization that “life must go on.” It seems that habituation to the recurrent traumatizing events in Israel has contributed to the development of a “forced conformity” with the situation.

Beyond the common fatalistic acceptance by both sexes of the inevitability of life under the threat of terrorism, the results indicate significant gender differences in all other coping techniques.
strategies except planning and behavioral disengagement. The women, who were at a greater risk of developing psychological problems, used coping strategies more intensely than did the men, particularly active, confronting, and problem-focused ways of coping. This finding is in line with previous research (Ben-Zur & Zeidner, 1991; Gibbs, 1989) and supports our hypothesis that women not only suffer more psychologically, but use coping strategies more intensely than do men.

The association among the intensity of coping, emotional distress, and posttraumatic symptoms raises the question of cause and effect. It is plausible that emotional distress and symptoms of PTD occurred before the adoption of these coping strategies and that such coping was the result, rather than the cause, of the symptoms and negative mood. This explanation corresponds with the more severe perception by women of their exposure to disasters. However, it may be that intense coping is meant to help manage threats and that this, in itself, causes extreme distress because the threats are perceived to be severe.

Thus, the apparent relationship between coping and distress appears to be counterintuitive: The more intensely women cope, the more they suffer. Pearlin and Schooler (1978) argued that the coping strategies that women use are less effective in buffering the psychological effects of life stress than are those that men use. In analyzing our data, we were puzzled by the question: Why did the women, who were less directly exposed to traumatizing events, cope more intensely and report more suffering than did the men? King, King, Gudanowski, and Vreven’s (1995) findings about differences in the coping of male and female Vietnam veterans indicated that the women reacted more intensely than did the men to two of the four conceptualizations of war-zone stressors: perceived threat and malevolent environment. It is plausible that exposure to this kind of stressful event over extended periods exacerbates women’s level of emotionality and encourages women to cope in a more intensive way.

However, feminist theories (Banyard & Graham-Bermann, 1993; Gavaridou & Rosner, 2003; Hare-Mustin & Marecek, 1990) claimed that although current theories of coping seem tolerant of diversity in coping, they are limited in understanding women and continue to revert to traditional gender models when discussing their results. The feminist perspective considers that much of the complexity in women’s coping is invisible to mainstream research and that a different methodology that captures women’s strengths would yield different results. Feminist researchers have argued that sociopolitical factors and power issues reduce the way women eventually address stressful events. Dill, Feld, Martin, Beukema, and Belle (1980) suggested that women’s coping strategies are often a compromise between the environment and what women are capable of accomplishing, so that women’s performance may not always reflect their ability to cope with stressful events.

A number of methodological limitations warrant caution when interpreting our findings. The major one in studies of this type is the authors’ political bias. Possibly, different wording of the questions might have yielded different outcomes. By acknowledging this central issue, one needs to interpret the results with caution. Future research may explore the political views of Israelis and Palestinians in the conflict and the influence of violence and terrorism on their views. Besides this central concern, there are other limitations. First, the study relied exclusively on self-report data; the addition of objective or observational data would have been illuminating. Second, the study was limited by the fact that no data exist on the individuals who declined to participate. Finally, the study was constrained by the lack of information about the respondents’ mental health histories and previous counseling experiences. Cultural norms regarding privacy and discretion, combined with the realities of a telephone survey, necessitated the abbreviation of some research instruments and prevented direct probing about the respondents’ previous psychopathology and psychotherapy.
The consistent evidence on women’s vulnerability to trauma highlights the value of training women to be prepared to operate under stressful conditions by developing adequate stress-appraisal skills and effective coping proficiencies. The results of this study underscore the importance of offering special psychological screening for women who have been exposed to traumatic events. Future controlled outcome studies on specialized stress-preparedness training for women will help to identify the components that are most useful in assisting women with the consequences of exposure to trauma.

References


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