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Stress reactions in Israel in the face of terrorism: Two Community Samples

Irwin J. Mansdorf and Jacob Weinberg¹

Two Israeli samples were used to survey reactions to ongoing terror attacks in the country. One group lived in an area that had experienced terror attacks while another lived under the same threat of terror, but in an area that had not experienced any local attacks. While both groups were similar in stress symptoms among adults, the group that experienced more terror attacks in their city showed markedly higher levels of perceived stress in their children's behavior. They also were less involved in proactive activities related to coping. The results may serve as models for further study related to the effects of ongoing terror threats.

Key Words: terrorism, terror, Israel, stress, coping

Introduction

While terrorism is a relatively new phenomenon in the United States, residents of Israel have lived with the reality of terror attacks for years. Although Israelis have historically always been exposed to terror, the events since the start of disturbances in September 2000 raised the bar to levels rarely experienced by the population in the past. Shortly following the breakdown of political negotiations at Camp David in the summer of 2000, violence broke out first in the West Bank and Gaza Strip, then in the heart of Israel proper. Terror attacks often took the form of random shootings and bombings in the midst of civilian population centers, with terrorists targeting shops, supermarkets, restaurants, buses and pedestrian malls.

The nature of ongoing terror attacks in Israel represents an omnipresent danger that permeates every aspect of one's personal life. Unlike a single isolated attack or event, terror has become of "way of life" in most Israeli cities, with the presence of armed guards and special police units punctuating the routine that all citizens face daily. Press and media coverage of these events has been extensive, and public awareness of the dangers associated with terror is high.

As noted by Amir and Sol (1999), most literature in the area of posttraumatic stress disorder (PTSD) has focused on specific aspects of clinical populations, such as accident victims. The impact of terror as a clinical variable is less clear. While direct victims of a terror attack certainly suffer from a variety of clinical symptoms associated

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with trauma, there is a dearth of work examining the effects of terror in non-clinical populations; that is, those who were not physically harmed by and present during a terror attack. A study by Schuster and colleagues (2001) for the RAND corporation examined these effects across the United States by surveying reactions among people who were exposed to the September 11th attacks via the media, but were not directly physically present at the site of any of the attacks. What was found was that people who were geographically far from the attacks still showed a number of significant clinical symptoms.

The psychological impact of terror in Israel, however, may be different from that in the United States. While Americans were first exposed to international terror on September 11, 2001, Israelis have long been exposed and continue to face terror daily. How terror affects the lives of those not directly present during an attack remains an open question. While the RAND study may have answered questions related to the effects of an initial or single attack of terror on the general population and in a large and dispersed geographical area, it did not address the question of how ongoing terror affects people, especially in a much smaller sized country.

With the constant threat of terror creating a reality where citizen casualties are recorded regularly, the question of what symptoms and reactions are present in Israel looms as a significant issue. The research questions posed by this study were as follows:

1. What stress symptoms and coping mechanisms do Israelis exhibit as a result of living with regularly occurring terror attacks?
2. Are there differences within Israel with respect to these symptoms and reactions based on degree of geographical proximity to terror attacks?
3. Do adults in these populations perceive their own reactions to terror and their children's reactions similarly?

Our approach to answering these questions took the form of examining two separate population samples in Israel. We sought to examine how terror would impact a sample of individuals living in a town that had experienced serious terror attacks, as opposed to another sample of those living under the threat of attack, but who never experienced an actual attack in their immediate area.

Method

Participants and procedure

We chose to investigate two separate samples in Israel. Our first sample was in the city of Hadera, located in the center of the country. The Hadera area is frequently the object of terror alerts and is considered particularly sensitive, situated close to Palestinian

villages and having experienced recurrent fatal terrorist attacks. Our second sample was from the cities of Raanana and Hod HaSharon, neighboring municipalities located near areas that experienced terror attacks, but neither of which had any actual incidents within their bounds since the start of the current violence. Our intention was to compare those who actually live or work in an area that has had multiple attacks (i.e., Hadera), with those that live under the threat, but whose cities have not actually experienced or suffered specific attacks or casualties (i.e., Raanana and Hod HaSharon).

A total of 60 subjects were surveyed in the Hadera group, with 48 surveyed in the Raanana- Hod HaSharon group. In Hadera, 72% of the respondents were female with 84% female in Raanana- Hod HaSharon. In Hadera, the average age of our respondents was 37.19 years, with an average of 2.55 children per family. In the Raanana- Hod HaSharon group, the average age was 37.07 years and the average number of children per family was 2.89. Both groups were compared statistically, with no statistically significant differences found between the groups in age, gender distribution or number of children per family. None of the participants in the study was a direct victim of a terror attack.

We essentially used the questions in the RAND study cited above, translating the survey into Hebrew. We chose to distribute the survey questions in questionnaire format, with respondents anonymously completing the self-administered instrument. In order to capture results that include ratings of children's behavior, we chose to distribute the survey in settings where parents were likely present. Towards that end, we chose a kindergarten, a pediatric practice and a speech therapy practice associated with a school system. The questionnaire was distributed on specific days to all clients that met the following criteria: residents of Israel, no history of mental illness or complaints of a behavioral nature, no history of any physical trauma and age over 19. Data collection from all settings was completed within 30 days. Both samples represented individuals from middle-class socioeconomic groups.

Instrument

The RAND questionnaire had two parts. The first (Table 1) consists of questions asked of adults regarding stress symptoms. Answers were on a 5-point scale ("not at all", "a little bit", "moderately", "quite a bit", and "extremely"). For adult ratings of children's behavior, answers were either "Yes" or "No". The second part of the scale consisted of questions that measured adult coping reactions. Table 2 presents those items, which were divided into a 4-point scale format ("Not at all", "A little bit", "A medium bit", and "A lot") as well as a "Yes-No" format.

Table 1. Questions related to stress symptoms**Adults***

Since the onset of civilian-directed violence in Israel, have you been bothered by:

Feeling very upset when something reminds you of one of these attacks?

Repeated, disturbing memories, thoughts, or dreams of these attacks?

Having difficulty concentrating?

Trouble falling or staying asleep?

Felling irritable or having angry outbursts?

Children

Since the onset of civilian-directed violence in Israel, have any of your children been bothered by:

Avoiding talking or hearing about any of these attacks?

Having trouble keeping his/her mind on things and concentrating?

Having trouble falling asleep or staying asleep?

Losing his or her temper or being irritable?

Having nightmares?

Worrying about his/her safety or the safety of loved ones?

**For the adults, answers were on a 5-point scale (“not at all”, “a little bit”, “moderately”, “quite a bit”, and “extremely”). For adult ratings of children’s behavior, answers were either “Yes” or “No”.*

Table 2. Questions related to coping behavior and other reactions

How much have you talked with someone about your thoughts & feelings about any of these attacks?

How much have you turned to prayer, religion or spiritual feelings?

How much have you participated in a public or group activity in recognition of any of these attacks?

How much have you avoided activities such as watching TV because they remind you of any of these attacks? *

Have you donated blood or money or done any volunteer work?

Have you gotten extra food, gas, cash or other supplies you might need?

Have you checked the safety of immediate family members and friends?

Have you checked on someone you thought might be hurt or missing?

*The first five questions were on a 4-point scale (“Not at all”, “A little bit”, “A medium bit”, and “A lot”). The final four questions were in “Yes” or “No” format.

Results

Both Israeli samples showed similar results and patterns for symptoms of stress (Table 3). A majority of adults in both groups (55.6% and 55.9%) stated that they were “very upset” when something reminded them of the attacks, but only a minority of respondents in either group showed any other symptoms of note.

With respect to coping behavior, the patterns of response were again basically similar in the two Israeli samples. Israelis living in Hadera, however, showed significantly less volunteerism than those in Raanana- Hod HaSharon. The Raanana- Hod HaSharon rates for volunteer or donation activity was 47.8% while the rate for the Hadera sample was 19.3%. The Raanana- Hod HaSharon sample also showed higher rates for stocking up on supplies or cash (31.1%), than the Hadera sample (10.3%). Significant differences between the two Israeli groups were found on both these variables. Results are presented in Table 4 and in Figures 1-4.

Table 3. Symptoms among adults surveyed

Percentage 'significant stress' per symptom	Raanana-Hod	Hadera
Feeling very upset	55.6%	55.9%
Disturbing memories	10.9%	8.6%
Concentration Difficulties	4.3%	8.5%
Sleep Difficulties	6.5%	5.2%
Irritable or Angry	8.7%	10.2%
At least 1 'substantial symptom'	56.5%	57.6%

Table 4. Coping reactions and activities among adults

<i>Activity/ %age "yes"</i>	<i>Raanana- Hod HaSharon</i>	<i>Hadera</i>
<i>Donated blood, money or volunteered*</i>	<i>47.8%</i>	<i>19.3%</i>
<i>Stocked up on extra cash or supplies **</i>	<i>31.1%</i>	<i>10.3%</i>
<i>Checked on safety of family or friends</i>	<i>82.6%</i>	<i>89.7%</i>
<i>Checked on someone if missing or hurt</i>	<i>62.2%</i>	<i>50%</i>

**A significant difference between the groups was found at the $p < 0.01$ level (chi square) on donated blood, money or volunteered. **A significant difference at the $p < 0.05$ level (chi square) was found on stocking up on extra cash and supplies.*

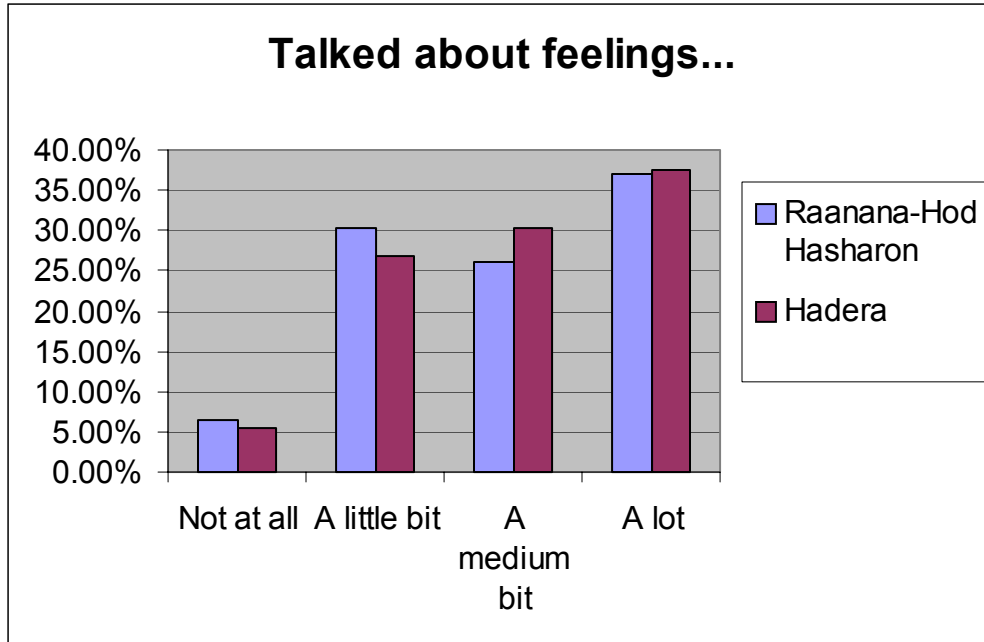


Figure 1. Percentage of respondents who talked with someone about their thoughts and feelings about what happened.

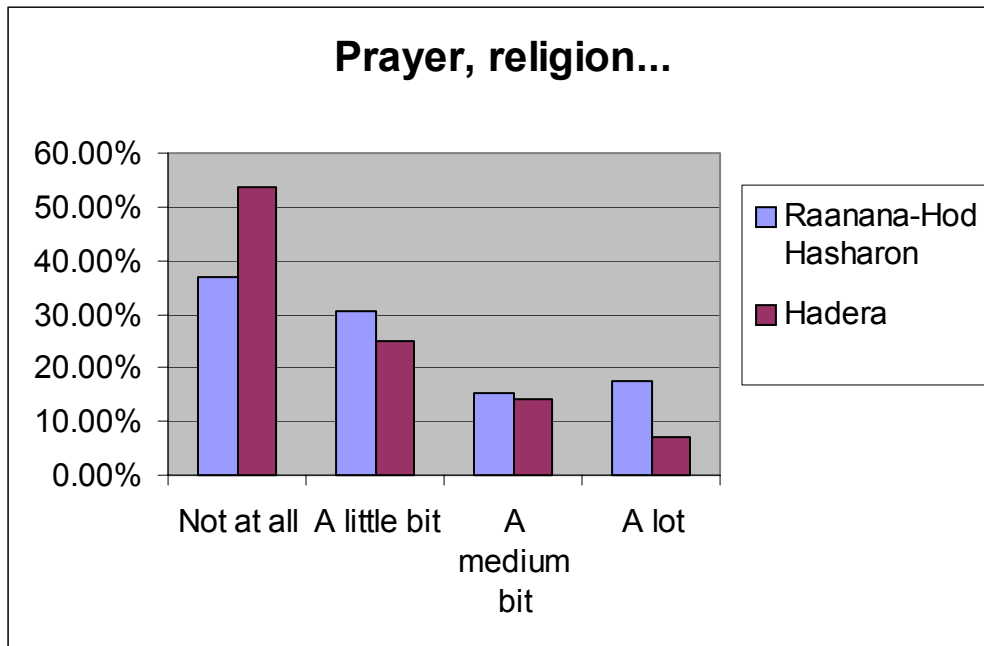


Figure 2. Percentage of respondents who turned to prayer, religion or spiritual feelings.

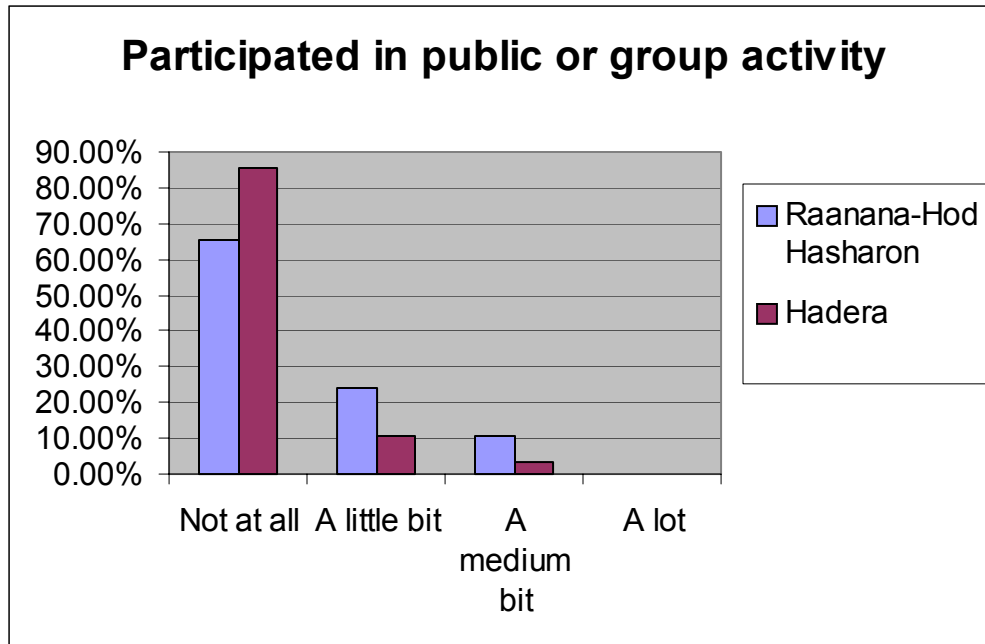


Figure 3. Percentage of respondents participated in a public or group activity in recognition of what happened. The groups differed from each other significantly ($p=0.056$).

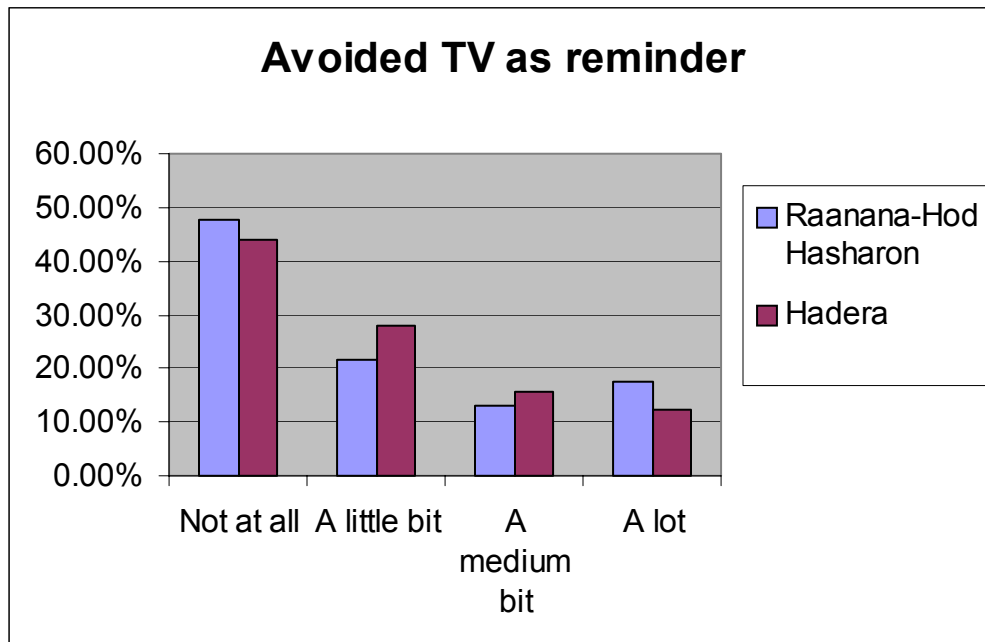


Figure 4. Percentage of respondents who avoided watching TV because it reminded them of what happened.

Marked differences in results were seen in responses relating to adults perception of symptoms in their children. The Hadera sample showed results clearly indicating higher levels of perceived distress related to certain symptoms in their children (Table 5). A significantly higher number of Hadera parents (35.4%) stated that their children have been avoiding talking or hearing about the terror incidents (versus 16.3% of the Raanana-Hod HaSharon parents). This difference was significant ($p < 0.05$). The Hadera sample reported significantly higher levels of perceived temper or irritability in their children (39.6%) than the Raanana-Hod HaSharon sample (18.2%). This difference was also significant ($p < 0.05$). The Hadera sample reported 62.5% of their children with at least one stress symptom. The Raanana-Hod HaSharon sample reported a rate of 38.6%. The significant difference here was $p < 0.05$. More Hadera parents reported that their children were concerned about the safety of a loved one (72.9%) than the Raanana-Hod HaSharon group (52.3%). Here again, the Raanana-Hadera difference was significant ($p < 0.05$).

In the Raanana-Hod HaSharon sample, a significantly lower amount of those with substantial stress (a score of at least '4' on at least one symptom item) reported talking about their feelings (73.1% vs. 90.0%). Relatively few Israelis both with and without "substantial stress" reported turning to prayer, religion or spiritual feelings (Raanana-Hod HaSharon: 25% vs. 67.8% w/o stress; 38.5% vs. 84.1% w/stress; Hadera: 16.7% vs. 67.8% w/o stress, 25% vs. 84.1% w/stress, ($p < .001$). The Hadera group also had significantly ($p < .005$) higher reports of children with at least one clinical symptom for both substantial stress and non-substantial stress groups (45% vs. 22.6% w/o stress and 75% vs. 50% w/stress). Where similarity (and no statistically significant differences) was present was in the patterns of response with regard to checking the safety of family and friends, with both Israeli groups showing very high rates of response.

Table 5. Percentage “significant stress” among children as reported by adults surveyed.

Symptom	Raanana-Hod	Hadera
Avoid talking or hearing about the event* **	16.3%	35.4%
Trouble concentrating	14%	19.1%
Trouble falling or staying asleep**	22.7%	22.9%
Losing temper or irritable* **	18.2%	39.6%
Nightmares**	22.7%	25%
At least 1 positive symptom* **	38.6%	62.5%
Worrying about safety of self or loved one's* **	52.3%	72.9%

*Significant differences between the Israeli groups were found at the $p < 0.05$ level (chi square) on the following variables: avoid talking or hearing about the event, losing temper or irritable, worrying about safety of self or loved one's and having at least one positive symptom. **

Discussion

There does not appear to be a difference in reported symptom patterns between the two Israeli adult samples. While one sample (Hadera) was far more involved in actual terror attacks, the symptom pattern did not differ from the pattern seen in the other Israeli sample (Raanana- Hod HaSharon). This pattern did not hold true, however, when it came to rating children's reactions. The Hadera adults reported higher levels of perceived stress in their children. This would appear to indicate that the actual experience of repeated terror attacks leads to the perception (which may be, in fact, true) that children are more adversely affected.

When it came to coping behavior, differences between the two groups were noted. The Raanana- Hod HaSharon group, reported higher rates specifically in areas related to volunteering, donating and stocking up on supplies and cash. One possible explanation is that repeated attacks in one's immediate living area (as with the Hadera sample) lead to a sense of hopelessness or helplessness and lower rates of specific proactive behavior. With respect to the different perceptions of children's symptoms in the two Israeli samples, it may be that increased proactive behavior among parents (in the Raanana- Hod HaSharon sample) is associated with lower levels of perceived symptoms in children. Our sample also contained a disproportionate number of adult women relative to adult men, although it is unclear how this may have affected the results.

The situation in Israel offers the opportunity for studying the effects of terror longitudinally and across different population samples. While the whole of Israel can be said to be affected by the psychological pall of terror, certain areas are particularly vulnerable and have suffered disproportionately. Studying these different populations may provide answers to several outstanding clinical issues. The Israeli response pattern may reflect what can be expected in populations that experience terror over an extended period of time. The two Israeli samples show differences that may be associated with ongoing attacks in a population, with different results contingent on proximity to affected areas. Further analysis and sampling may provide further insight into these questions. Such follow up investigations would benefit from more careful sampling of the populations surveyed, in order to insure the applicability of results. Although the populations sampled were indeed matched and did not differ in key demographic areas, we did not specifically account for possible effects of sub-cultural or socio-economic differences. While these factors may indeed be related to certain community behaviors (e.g., volunteerism), they were not likely, however, to impact on the specific target variables tested in this study. Controlling for these factors would, nevertheless, be appropriate for future studies on these issues that are likely to follow this initial investigation into how exposure to terror affects specific behavioral variables.

Our study seems to indicate that terrorism also affects the society at large and not only those that were directly attacked. As such, it is distinctly different from other forms of trauma, which typically affect only those directly involved and perhaps a close circle of friends or family. The results of our study show, as did the RAND study in the United

States, that even those not attacked are affected in numerous ways. Terror, thus, becomes a “crisis by observation”, with all those considered potential targets suffering symptoms of varying intensity. How these symptoms present over time needs to be examined in future studies. In Israel, it appears that ongoing terror may continue to account for high levels of concern and worry, but specific symptoms may moderate as the society becomes habituated to the ongoing conflict. It may be that continuing terror creates a routine of coping where both symptoms and coping change over time.

Studies in the United States and Israel appear to support this suggestion. In New York, a post-911 survey conducted by Galea, et al (2002) showed higher than expected levels of PTSD and depression symptoms in residents of lower Manhattan. That would tend to support findings that point to increased psychological morbidity following an initial societal exposure to terror. In Israel, a recently unpublished survey (Smith, 2002) of teenagers conducted for the “One Family” foundation showed significant changes in lifestyle and activities, but also demonstrated an increase in patriotism and motivation for community service.

The RAND study concluded that additional attacks in the United States may well lead to trauma-related symptoms even in people far from the areas of attack. The present study, using two different Israeli samples, provides a glimpse of how the pattern of those symptoms may present in both adults and children. With more extensive and controlled studies, models for the reactions to and coping with terror can be developed and tested.

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