Can Living in the Shadow of Terror Leave no Marks? Long-Term Effects of Traumatic Environments of Varying Intensity

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ABSTRACT

Introduction: This study investigated the long-term effects of different traumatic environments on adolescents. Environments were characterized by different threats that varied in predictability, duration, and the extent to which the threat can be defended against. The research examined: 1) Jerusalem during the Second Intifada (2001-2004), 2) Israel’s northern cities during the Second Lebanon War (2006), and 3) cities that suffered neither the suicide bombings (that occurred in Jerusalem) nor the rocket bombardments (that occurred in the north).

Method: Data was collected from surveys administered to 115 subjects aged 19-28 who were adolescents in the aforementioned cities at the relevant times but were not directly affected by terror. Participants were administered the Beck Depression Inventory (BDI), the Post-Traumatic Growth Inventory (PTGI) and the Impact of Event Scale – Revised (IES-R).

Results: No significant differences were found between subjects who lived in different traumatic environments as adolescents in levels of depression, posttraumatic symptoms (PTS) or posttraumatic growth (PTG). In fact, a pattern in the data indicates that adolescents in Jerusalem were less negatively impacted by their environment than were the other groups, even though Jerusalem experienced an unpredictable threat that could not be defended against, a chronic chaotic environment.

Conclusions: These findings suggest that the effects of a chronic chaotic environment did not produce significantly more symptoms than other environments when examined several years later. Reactions to terror, including parental attitude towards adolescents’ daily routine, are also discussed.

The ongoing Israeli-Palestinian conflict, especially the Second Intifada (2001-2004), has exposed Israel’s civilian population (both Jews and Arabs) to multiple traumatic events and a sustained threat (1). These dangers threatened the vast majority of Israeli society and specifically targeted civilian locations like entertainment centers and vehicles of public transportation (1). Thus, even individuals who did not personally experience an attack were exposed and threatened. The far-reaching effects of the pervasive threat were evidenced by data collected from a representative sample of 512 Israeli participants during the Second Intifada (2). Although more than half of the participants (55.6%) had not been directly exposed to a terror attack nor had their relatives or close friends experienced an attack firsthand, 37-55% of the participants presented at least one item in each symptom cluster of post-traumatic stress disorder (PTSD) symptoms as outlined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (3), which was the most updated version at the time of the research. This study also found that 9% of subjects met the symptom criteria for PTSD from terror attacks, despite

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the fact that some of them had not been exposed directly to an attack (2).

**Types of traumatic environments:** Traumatic situations vary in the degree to which their threat can be predicted, its duration, and the extent to which it can be defended against. Decades of research on traumatic environments have identified four discrete categories: Terr (4) distinguished between Type I trauma – a single, unexpected traumatic event (such as an earthquake) – and Type II trauma – repeated exposure to stressful events (such as chronic physical abuse). Berk (5) suggested that chronic anxiety-provoking environments necessitated a third category - Type III trauma. According to Berk, this setting is characterized by high levels of instability, but individuals can adapt over time if they develop defensive strategies, including practical actions, that foster an increased sense of security in the face of traumatic threats. Studies highlighting adaptation to environments riddled by constant stress and threats have examined London during the WWII blitz, Lebanon during the second civil war, and Israel during the Gulf War, among others (e.g., 5). Finally, noting an additional subset of threats not accounted for by the above three categories, Wilson (6) formulated Type IV trauma. He defined it as a chaotic environment in which victims are, unable to effectively reduce danger to themselves or their loved ones (e.g., repeated terror attacks), as they are in Type III environments. The difficulty of defending against this threat may engender feelings of helplessness that may manifest in the form of hypertension, anxiety and sadness (6). Research shows that exposure to Type IV trauma may result in larger rates of PTSD than the other types of traumatic environment (e.g., 6, 7).

**Exposure to trauma in adolescence:** Exposure to trauma can elicit many reactions including various anxiety disorders, PTSD, panic disorder, specific phobias, and depression (2, 8). The literature on traumatic environments has identified several factors that influence the correlation between exposure to trauma and negative outcomes. The degree of exposure itself has been found to contribute substantially to the development of PTS and to symptom severity (9-15). Another factor effecting the development of PTS is the age of the individual when exposed to trauma (8, 13). For example, Turner and Butler (16) found that exposure to traumatic events harms mental development and acquisition of interpersonal skills in childhood. In particular, children exposed to trauma make more negative self-attributions than unaffected children. They also found that poor parenting and lack of positive peer interaction may exacerbate the impact of exposure to trauma on mental and social development, especially since adolescents’ minds have not yet finished developing; their limited cognitive and emotional abilities leave them ill-equipped to process and regulate emotions in response to traumatic experiences (17). Hence, they are still somewhat dependent on their parents’ ability to help them regulate these experiences (18).

**Parents’ roles in exposure to trauma:** While exposure to a traumatic event or threat is a prerequisite for PTSD, Somer (19) emphasized that exposure to trauma alone may not be the best predictor of post-traumatic distress; there are consequential moderating variables (20). Parents’ own coping strategies in the traumatic environment influence how effectively their children cope after experiencing a trauma (19). While a supportive environment allows for a healthy response, a weak or pathological environment adds additional stress and hinders coping mechanisms (15). Parental functioning influences the number of symptoms that children show as well as the degree of symptom severity (21). An unstable and despondent atmosphere at home, as well as parental psychopathology, predicts higher levels of PTS in children (22). In addition, La Greca, Silverman, Vernberg and Prinstein (23) found that social support, including parental support, correlates with the decrease in PTS during the months following a traumatic event.

**PTG:** Though exposure to trauma often brings about negative symptoms, researchers have investigated the possibility that exposure to trauma might also result in positive outcomes (24-26). Many studies indicate that repeated exposure to trauma may inoculate against symptoms of posttraumatic stress, which can coincide with coping and resilience (e.g., 11). Thus, traumatic experiences can be followed by PTG. People who have experienced PTG may exhibit greater appreciation for life, a changed sense of priorities, warmer and more intimate relationships, greater sense of resilience, spiritual development, and recognition of new possibilities (27). PTG does not automatically follow a trauma; it is attained through the individual’s necessary adaptation to his or her new reality in the aftermath of trauma. (25, 27). However, some studies show that exposure to traumatic events of an extreme nature only diminishes the ability to cope with PTS. The cumulative body of research describes the immunizing effect of trauma as only occurring if an individual successfully copes with the stressful event (25, 28).

**Rationale for the present study:** The extent to which exposure to traumatic events and threats translates into PTS is influenced by a number of factors (2, 8). The nature of the threat and degree of exposure can exacerbate symp-
toms (5, 6, 7). The literature highlights the potential for parental support to attenuate the danger of PTS for their children (22). By encouraging the maintenance of routine activities, which has been identified to protect individuals from PTS, parents may be able to nurture the PTG of their children (29).

Though Berk (5) and Wilson (6) introduced the categories of Type III and IV trauma, limited research has been conducted on the long-term effects of these different traumatic environments, especially on adolescents. Therefore, the present study focused on adolescents – who are in a critical period for the influence of traumatic events (17), and parents of adolescents – whose support is critical (23). While both of these groups have been featured in previous research, this study expands the discussion to include the subjective reality of the adolescents in the way they perceive their parents.

The present study aimed to assess the long-term consequences of exposure to Type III and Type IV traumatic environments on adolescents in terms of depression, PTS, and posttraumatic growth. The measures also evaluated subjects’ perception of their parents’ parenting behavior under these circumstances. This study compared populations of three different traumatic environments in Israel: 1) The population of Jerusalem during the Second Intifada (2001-2004), a chronic chaotic traumatic environment (a Type IV trauma), marked by unpredictable suicide bombings that are difficult if not impossible to defend against. 2) The population of northern Israeli cities during the Second Lebanon War (2006), that was exposed to frequent missile attacks. Since the missiles were preceded by a siren, civilians had an opportunity to protect themselves by finding shelter within 30-60 seconds, which made this threat a Type III trauma. 3) The populations of cities in Israel that were not attacked (by suicide bombings or rockets) during those years such as Holon, Arad, Bet Shemesh, Bat Yam and Qatzrin.

HYPOTHESES
It was expected that adolescents who grew up in the Type IV traumatic environment of Jerusalem during the Second Intifada would differ from adolescents who lived in the Type III traumatic environment of northern Israel during the Second Lebanon War with regard to a number of consequential factors. The former group was anticipated to have more PTS and less PTG than the latter group due to the nature of unexpected terror attacks that were difficult to defend against. The third group, adolescents who grew up in unattacked cities, were expected to differ from the other groups in those variables since they were less exposed to trauma. Finally, adolescents who viewed their parents as encouraging them to continue their daily routines were expected to fare better in response to trauma.

METHOD
PARTICIPANTS AND PROCEDURE
This study was approved by the Ethics Committee of the Hebrew University of Jerusalem. Potential participants were recruited between January and July 2012, via the snowball method (30) through e-mail invitations and social networks (e.g., Facebook). An initial invitation was sent to the researchers’ friends and colleagues with a request to further forward it to all relevant acquaintances, thus employing the advantages of the snowball method in locating people from a specific population (in terms of age and place of residence). Participants were given a link to the online questionnaire and were invited to fill it out after signing a letter of informed consent. Participants received no compensation.

Participants were included as long as they had lived for at least four consecutive years in the relevant cities during their adolescent years (12-18). Candidates were excluded if they had personally experienced a terror attack. Subjects were not excluded if a close relative or friend had experienced a terror attack unless they were directly harmed.

The questionnaires were filled out by 236 volunteers; 121 of them did not meet inclusion criteria. The final research group included 115 men and women of the ages 19 to 28. Subjects were divided into three groups:

- **The Jerusalem group:** 43 participants, between the ages of 21-28 at the time of the research, 22 males and 21 females.
- **The northern cities group:** 38 participants, between the ages of 18-24 at the time of the research, 15 males and 23 females.
- **The control group:** 35 participants, between the ages of 18-28 at the time of the research, 10 males and 24 females.

INSTRUMENTS
- **Beck Depression inventory – II (BDI-II):** a 21-item, self-report questionnaire (31). The items refer to symptoms of depression such as hopelessness, irritability, guilt, and punishment cognitions and physiological symptoms (e.g., loss of weight, sleeping problems). The internal consistency found in this study – 0.91 – was identical to previous numbers found (32).
- **Impact of Event Scale – Revised (IES-R):** The original
1979 questionnaire of Horowitz, Wilner and Alvarez (33) was revised by Weiss and Mamar (34) to form a 22-item, self-report questionnaire that assesses the subjective distress caused by traumatic events on a 5-point Likert Scale (0-4). The items address the three major symptom groups of PTSD: re-experiencing the traumatic events, hyper-arousal, and avoidance. Participants were asked to relate to the aforementioned period, under threat of terror attacks, as the traumatic event and to grade their experienced distress in the seven days before completing the surveys. Studies have found an internal consistency ranging between 0.82 and 0.96 (35, 36); and the present study found an internal consistency of 0.93.

- **Posttraumatic Growth Inventory (PTGI):** a 21-item questionnaire (27) that addresses five separate dimensions of growth: connections with others, new possibilities, personal strength, spiritual change and evaluation of life. Participants were asked to indicate their growth level following the traumatic event on a 5-point Likert Scale (0-4). Overall growth level was obtained by calculating the average of the answers. The present study found the 26 items to have an internal consistency of 0.95, higher than the 0.91 in previous studies (27).

- Additional items were added by the researchers (one after each original item) to the PTGI and IES-R questionnaires. These additional items assessed the extent to which a participant attributes his or her former answer on a 5-point Likert Scale (0-4) to the traumatic events he or she experienced during adolescence (and not to other traumatic events).

- **Perceived parental behavior:** Participants were asked to evaluate their parents’ behavior during their adolescence. In a multiple choice question, the participant was asked to describe their parents’ behavior as follows: a) “my parents were too limiting of routine activities,” b) “my parents encouraged me to continue routine activities,” c) “there were no terror attacks in my place of residence.” This one-item questionnaire was adapted from Pat-Horenczyk (29).

### RESULTS

#### DEMOGRAPHIC CHARACTERISTICS

The samples differed with regard to several demographic variables (Table 1). However, all participants’ ages ranged between 19-28 at the time of the study. An analysis of variance showed that participants from the northern cities group were significantly younger ($M=23.32$, $SD=1.54$) than the control group ($M=23.32$, $SD=1.54$) and participants of both groups were significantly younger than participants from Jerusalem ($M=26.28$, $SD=1.45$, $F_{2,112}^{2}=33.24, p<0.01, \eta^2=0.37$). Chi-square tests were performed to examine the association between location and demographic characteristics. Marital status was associated significantly with place of residence ($\chi^2=12.05, p<0.01, \phi=0.32$). The highest percentage of married participants was found in the Jerusalem group (27.9%) followed by the control group (17.6% married) and finally the northern cities group (0% married). Level of education was also significantly associated with place of residence ($\chi^2=22.94, p<0.01, \phi=0.447$). The highest percentage of individuals with an academic degree was found in the Jerusalem group (86%), followed by the control group (64.7%) and the northern cities group (39.5%).

#### EXPOSURE TO TRAUMATIC EVENTS

Potential participants were excluded from the study if they witnessed a terror attack (suicide bombing or missile attack in their close environment) or had a close acquaintance or relative injured in such an event. There were 22 participants (19%) from the subject pool who reported having a close relative or acquaintance who witnessed a terror attack. A chi-square test revealed that the relation between place of residence and relatives’ and acquaintances’ exposure to terror was not significant ($\chi^2=0.611, p>0.1$). In addition, 51 participants (44% of the

### Table 1. Demographic characteristics by group

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>Jerusalem</th>
<th>Northern cities</th>
<th>Control group</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>N</td>
<td>% of the group</td>
<td>N</td>
<td>% of the group</td>
</tr>
<tr>
<td>Male</td>
<td>22</td>
<td>51.2%</td>
<td>15</td>
<td>39.5%</td>
</tr>
<tr>
<td>Female</td>
<td>21</td>
<td>48.8%</td>
<td>23</td>
<td>60.5%</td>
</tr>
<tr>
<td>Marital status</td>
<td>N</td>
<td>% of the group</td>
<td>N</td>
<td>% of the group</td>
</tr>
<tr>
<td>Single</td>
<td>31</td>
<td>71.3%</td>
<td>38</td>
<td>100%</td>
</tr>
<tr>
<td>Married</td>
<td>12</td>
<td>28.7%</td>
<td>6</td>
<td>0%</td>
</tr>
<tr>
<td>Education</td>
<td>N</td>
<td>% of the group</td>
<td>N</td>
<td>% of the group</td>
</tr>
<tr>
<td>High school education</td>
<td>6</td>
<td>14.0%</td>
<td>23</td>
<td>60.5%</td>
</tr>
<tr>
<td>Academic education</td>
<td>37</td>
<td>86.0%</td>
<td>15</td>
<td>39.5%</td>
</tr>
<tr>
<td>Religiosity</td>
<td>N</td>
<td>% of the group</td>
<td>N</td>
<td>% of the group</td>
</tr>
<tr>
<td>Secular</td>
<td>29</td>
<td>67.4%</td>
<td>28</td>
<td>73.7%</td>
</tr>
<tr>
<td>Traditional orientation and religious</td>
<td>14</td>
<td>32.6%</td>
<td>10</td>
<td>26.3%</td>
</tr>
<tr>
<td>Mothers’ country of origin</td>
<td>Israel</td>
<td>21</td>
<td>48.8%</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>22</td>
<td>51.2%</td>
<td>18</td>
<td>47.4%</td>
</tr>
<tr>
<td>Fathers’ country of origin</td>
<td>Israel</td>
<td>21</td>
<td>48.8%</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>22</td>
<td>51.2%</td>
<td>18</td>
<td>47.4%</td>
</tr>
</tbody>
</table>

*p < 1%, *p < 5%
sample) reported they had experienced a life threatening event in their lives (not related to the threats examined by this study). A chi-square test was performed to examine the relation between exposure to non-terror trauma and place of residence. The relation between these variables was not significant ($\chi^2=4.525, p>0.1$).

**DEPRESSION, PTS AND PTG**

It was expected that adolescents who grew up in the Type IV traumatic environment of Jerusalem during the Second Intifada would have significantly more PTS and less PTG compared to those who lived in the Type III traumatic environment of northern Israel during the Second Lebanon War. Contrary to the hypothesis, no significant differences were found between the three research groups with respect to levels of depression, PTS or PTG. All scores were within normal range (see Table 2).

However, an ANOVA test showed that the effect of place of residence tended toward significance for depression ($F=2.22, p=0.11$) and attribution of symptoms of intrusion ($F_{2,112}=2.738, p=0.069$). The effect of place of residence was significant for attribution of PTG ($F_{2,112}=3.152, p=0.047, \eta^2=0.05$): Participants in the Jerusalem group reported lower depression level compared to participants from northern cities, who in turn expressed lower depression level than the control group. Attribution of symptoms of intrusion to the traumatic event tended to be lower among participants from Jerusalem relative to participants from northern cities and the control group. Attribution of PTG to the traumatic event was significantly lower among participants from Jerusalem relative to participants from northern cities and the control group.

A chi-square test was performed to examine the association between parental behavior and place of residence to detect potential patterns in perceived parenting behavior in parents from the same location. The association between these variables was significant ($\chi^2=16.07, p<0.01, \phi=0.374$) (see Figure 1). Jerusalemites perceived their parents as more encouraging to maintain their daily routine outside of the home compared to participants from the northern cities ($\chi^2=3.04, p=0.08, \phi=0.194$). Participants from both Jerusalem and northern cities perceived their parents as more limiting of their daily routine than the participants in the control group ($\chi^2=3.56, p=0.059, \phi=0.215; \chi^2=5.37, p=0.021, \phi=0.273$, respectively).

It was expected that perceived parental encouragement to continue daily routine would influence participants’ reaction to trauma. Univariate general linear model analyses were conducted to check for combined effects of and interactions between the variables of perceived parental behavior and depression, PTS and PTG. Perceived parental behavior did not correlate significantly with any of these variables.

**DISCUSSION**

The present study found that adolescents who lived in Jerusalem under threat of unpredictable terror attacks that could not be defended against (i.e., a chronic chaotic traumatic environment) did not differ significantly in depression and PTS from adolescents who lived in a predictable traumatic environment or non-traumatic environment 10 years following the threat. This result was obtained despite the fact that the more severe and unpredictable environment in Jerusalem lasted for multiple years, while the predictable threat in the northern cities lasted only for a few weeks. The lack of significant findings could be due to the relatively low exposure to trauma as this research only...

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**Table 2.** Means and standard deviations of BDI, IES-R and PTGI by group

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Jerusalem M</th>
<th>Jerusalem SD</th>
<th>Northern cities M</th>
<th>Northern cities SD</th>
<th>Control group M</th>
<th>Control group SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck Depression Inventory – 2</td>
<td>5.98</td>
<td>7.50</td>
<td>7.21</td>
<td>6.76</td>
<td>9.68</td>
<td>8.87</td>
</tr>
<tr>
<td>Impact of Event Scale – Revised</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrusion Score</td>
<td>0.53</td>
<td>0.68</td>
<td>0.79</td>
<td>0.78</td>
<td>0.88</td>
<td>0.82</td>
</tr>
<tr>
<td>Avoidance</td>
<td>0.74</td>
<td>0.68</td>
<td>0.90</td>
<td>0.85</td>
<td>0.99</td>
<td>0.92</td>
</tr>
<tr>
<td>Hyper-arousal</td>
<td>0.67</td>
<td>0.72</td>
<td>0.95</td>
<td>0.94</td>
<td>0.87</td>
<td>0.82</td>
</tr>
<tr>
<td>Total</td>
<td>0.85</td>
<td>0.60</td>
<td>0.87</td>
<td>0.79</td>
<td>0.92</td>
<td>0.75</td>
</tr>
<tr>
<td>Intrusion Attribution</td>
<td>0.56</td>
<td>0.74</td>
<td>0.84</td>
<td>0.90</td>
<td>1.03</td>
<td>1.07</td>
</tr>
<tr>
<td>Avoidance</td>
<td>0.68</td>
<td>0.86</td>
<td>0.78</td>
<td>0.95</td>
<td>1.03</td>
<td>1.07</td>
</tr>
<tr>
<td>Hyper-arousal</td>
<td>0.45</td>
<td>0.54</td>
<td>0.71</td>
<td>0.85</td>
<td>0.71</td>
<td>0.77</td>
</tr>
<tr>
<td>Total</td>
<td>0.57</td>
<td>0.66</td>
<td>0.77</td>
<td>0.86</td>
<td>0.94</td>
<td>0.92</td>
</tr>
<tr>
<td>Post-Traumatic Growth Inventory</td>
<td>Score</td>
<td>1.34</td>
<td>1.02</td>
<td>1.22</td>
<td>0.94</td>
<td>1.47</td>
</tr>
<tr>
<td>Attribution</td>
<td>0.47</td>
<td>0.59</td>
<td>0.79</td>
<td>0.85</td>
<td>0.89</td>
<td>0.91</td>
</tr>
</tbody>
</table>

**Figure 1.** Perceived parental behavior patterns during the traumatic period by group

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**Note:** $**p < 1%$, $^*p < 5\%$
involved adolescents who had not personally witnessed an attack and had no close friends or relatives directly harmed by one.

These results call into question Wilson’s (6) hypothesis suggesting that people exposed to a chaotic environment, without the ability to develop clear defense strategies – i.e., a Type IV trauma – develop more severe symptoms (such as excessive worrying, anxiety and sadness) due to the helplessness instilled by the threat.

Our data support Somer’s (19) findings that indicated that populations of more heavily attacked cities had elevated mood. Somer claimed that this result reflected resilience, not dissociation or a fatalistic submission, as supported by earlier work of his; Somer, Ruvio, Soref and Sever (37) found that acceptance was the most prevalent and the most adaptive coping strategy among Israelis in unpredictable environments. Moreover, they argued that this acceptance engendered elevated mood and resilience in its reflection of Israelis’ desire to continue daily life. Somer et al. (37) explains that Israelis took their unpredictable environment as a given and learned to function within it. Adapting in this way included engaging in behaviors that reduced their sense of vulnerability (e.g., strategically choosing seat location on a bus or in a restaurant), proffering a subjective sense of security that could also be described as a sense of safety or perceived efficient coping ability. Subjects in Jerusalem may have coped by engaging in more behaviors that reduced their sense of vulnerability and, consequently, increased their resilience. This coping mechanism has been shown in previous research to contribute to PTG and reduce stress after exposure to traumatic events (38).

Despite the dangerous environment, participants from Jerusalem generally perceived their parents to be encouraging of their continuing daily routine and were no more limiting than parents in the northern cities. Ten years after the treat, there were no significant differences for subjects based on perceived parenting with regard to symptoms of depression and PTS. Subjects who perceived their parents to be encouraging even tended to display fewer symptoms of depression. They also attributed intrusion symptoms to the traumatic events to a lesser extent than other subjects, and attributed their PTG to the traumatic events to a greater degree.

The findings suggest that parental behavior that encourages the continuation of daily routine in a dangerous situation may protect their adolescent children from long-term effects of exposure to traumatic threats. While these results must be replicated in greater samples with specific questionnaires detailing parental behavior in order to fully substantiate this claim, it is supported by previous research. Pat-Horenczyk (39) found that adolescents who perceived their parents to encourage their continuation of routine outdoor activities showed less PTS. These results corroborate clinicians’ support for maintaining routine life in a stressful environment and returning to routine after trauma. Pat-Horenczyk (39) emphasized that continuing typical adolescent activities, especially outside of the home, constitutes part of the vital developmental task to individuate from parents. Moreover, the coping literature indicates that avoidant behavior may predispose individuals to develop depression, anxiety, and PTSD (40). The approach oriented coping described here is composed of more adaptive behaviors and has been shown to be more beneficial (41). The present study replicates Pat-Horenczyk’s findings and provides further support for the aforementioned research on displacement of youth due to threat (42). Both studies emphasize the importance of continuing routine life to avoid PTS.

Living in traumatic environments may negatively impact mental health (e.g., 43), especially on children and adolescents (44). However, the present study shows that human beings in general, even youth specifically, can be resilient. Though this research did not test for short-term effects, even if some have come and gone, the study shows an absence of enduring negative influences from a chronic chaotic environment.

The research had some limitations due to its nature as field research: A number of demographic differences were found among the regions (e.g., age and family status). These differences are inherent to the different groups since the threats occurred in different periods. Nevertheless, all participants at the time of the 10 year assessment were in early adulthood (19-28). Differences in relationship status and educational achievement may be attributed to the differences in age as well. Second, the use of snowball sampling technique increased the likelihood that individuals recruited would have more social connection – such as a larger number of friends and greater contact with family members. This may have led to an underrepresentation of those individuals who have fewer social connections who may be more vulnerable to effects of PTS and less likely to foster PTG due to the role of social support in fostering resilience (45). Future studies may benefit from using other strategies for recruiting participants (e.g., random sampling from the different regions and account for different levels of social support when conducting analyses). Third, perceived parental behavior was evaluated using a single
question that has been used in previous research (29), but not validated. Data should be interpreted with caution.

CONCLUSION

The study’s findings shed light on responses to traumatic environments of different types. Parents may bolster the resilience of their children against deleterious effects of traumatic environments by encouraging them to maintain routine activities. The absence of long-term differences between groups from various types of traumatic environments suggests that adolescents can adapt to a variety of threats. Future studies should investigate the strategies developed by individuals living in various traumatic environments in order to better foster resilience among affected populations.

References

35. Yarden Mendelson et al.


