The Role of Dreams in Protecting Psychological Well-being in Traumatic Conditions

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The mental health function of dreaming was studied among Palestinian children and adolescents in a trauma group ($N = 268$) and a comparison ($N = 144$) group. The subjects were 6- to 15-year-old boys and girls, the mean age being $11.22 \pm 2.64$. They used a seven-day dream diary to record the dreams they could recall every morning. The results suggest that compensatory dreams could moderate between trauma and psychological symptoms. Traumatic events were not associated with psychological symptoms among children whose dreams were bizarre, vivid and active, and involved joyful feelings and happy endings. A mediating model suggested that exposure to traumatic events was associated with mundane persecution and unpleasant repetitious dreams. These dysfunctional dreams were, in turn, associated with poor psychological adjustment. The dynamics of mastery and compensation dreams in traumatic conditions are discussed.

For my sighing cometh before I eat, and my roarings are poured out like the waters. For the thing which I greatly feared is come upon me, and every terror that haunted me had caught up with me … When I say my bed shall comfort me, my couch shall ease my complaint; then thou scarest me with dreams and terriftest me through visions. (The Book of Job, 3:24–26; 7:13–14; The New English Bible, 1970)

Oppress’d nature sleeps: This rest might yet have balm’d thy broken nerves, which if convenience will not allow, stand in hard cure. (Shakespeare, King Lear III, scene 6)

Oh sleep! O gentle sleep! Nature’s soft nurse, how I have frighted thee, that thou no more wilt weigh my eyelids down, and steep my senses in forgetfulness. (Shakespeare, Henry IV, Part 2, III, i)

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The book of Job succinctly describes the impact of traumatic experiences on sleeping and dreaming, and Shakespeare expresses the common belief that dreams protect sleep and cure mental suffering. Both traditional and contemporary understanding of dreaming shares the idea that they are essential for sanity (Empson, 1993, p. 206; Hunt, 1989, p. 146).

Empirical research showing the mental health function of dreaming is, however, scarce, largely correlational, and weak (Cartwright, 1991). The process by which dreams possibly facilitate adaptation and recovery is still unclear (Stewart & Koulick, 1993), and we lack systematic evidence about what kind of dreams are beneficial to mental health, and why. This research focuses on the question whether certain dream characteristics are associated with good mental health among children in violent conditions. The children are from the Gaza Strip and they have personally experienced danger to life, and witnessed violent death and destruction.

The issue of the mental health role of dreaming is crucial among children exposed to traumatic events. On the one hand, traumatic experiences constitute a risk to their psychological well-being (Kostelny & Garbarino, 1994; Pynoos & Nader, 1988). Sleep seems to be especially vulnerable, and trauma victims typically suffer from nightmares, anxiety dreams, and general sleeping difficulties (Nader, Pynoos, Fairbanks, Al-Ajeel, & Al-Asfour, 1993; Pynoos & Nader, 1988; Qouta, Punamäki, & El Sarraj, 1996; Terr, 1991). On the other hand, researchers suggest that dreaming facilitates absorbing and integrating trauma as part of healthy personality development (Hartmann, 1991, 1995). This is possible through dreams providing metaphorical pictures of shocking and traumatic experiences, allowing the expression of a variety of feelings and leading to the gradual extinction of overwhelming distress (Cartwright, 1983; Cartwright & Lamberg, 1993).

Other researchers, however, deny that dreams play any adaptive role, and equate trauma-related, repetitious, and bad dreams with symptoms such as post-traumatic stress disorder (PTSD) (Kashani, Rosenberg, & Reid, 1989). Traumatic dreams characteristically lack recognisable content, constantly wake up the dreamer, and disturb the continuity of sleeping (Ross, Ball, Sullivan, & Caroff, 1989). Terr (1981, 1990) observed four different types of traumatic dreams across the recovery from trauma: exact repetitions, modified repetitions, deeply disguised dreams, and unremembered (contentless) terror dreams. Immediately after a traumatic event, children frequently reported dreams that replicated the original scene (of kidnapping), whereas later their dreams were still frightening, but involved a narrative course of events. Remembered content, level of narrative and dream-like nature (e.g. condensation, bizarreness, and symbolism) seem to be decisive in whether trauma-related dreams are considered symptoms or cognitive-emotional adaptation processes.
A great deal of research focuses on exposure to trauma and subsequent symptoms, and ignores the more complex interactions between psychological processes and pathology variables (Wilson, 1989). The conceptualisation of PTSD, for instance, documents the occurrence of nightmares, intensified dreaming and children’s repetitive play, without analysing dream or play content and meaning, or the disturbing versus the balancing role. The symptom-focused view, however, does not correspond with clinical observations revealing that children use a variety of cognitive and emotional processes in their attempts to master and recover from traumatic events.

Research is virtually lacking on mental health role of dreaming among children exposed to traumatic events. Anthony (1986) carried out a longitudinal study of the mental health and resilience of 5- to 17-year-olds who had been persecuted by their psychotic parents. He observed that the original trauma scenes remained vividly alive in the dreams, and that children with high representational competence attempted to extract meaning from the trauma by using these preserved ideas and images. Recalling traumatic events in dreams apparently served an adaptive role, and through that redressed the negative consequences.

Clinical studies show some beneficial role of dreaming among children. Discussing dreams facilitates coping with fears and stressors, and helps children to distinguish subjective thoughts and feelings from objective reality (Holpf, 1985; Rousso & Gross, 1988). As in play activity, children may actively repeat what they have passively suffered. Dreams serve as attempts to master and bring under control events that were originally impossible to deal with (Breger, Hunter, & Lane, 1971, p. 10; Freud, 1900/1953; Winnicott, 1960).

Research on adults has evidenced that dreaming about acute conflict and problematic human relationships predicts later good psychological adjustment (Cartwright, 1984), and that intense dreaming predicts the subsequent resolution of depression (Cartwright & Lloyd, 1994). Kramer (1993) has suggested that dreams play an important role in the mood-regulation process which, in turn, contributes to mental health. Research has shown, indeed, a reduction of negative affect following nights in which dream reports include a representation of current unsolved problems, conflicts, and stress (Cartwright, 1991; Kramer, 1993). These results hint that incorporating disruptive events and feelings into dreams serves a healing function. As far as children are concerned, we do not know whether their dreams serve similar mental health functions as those reported among adults.

Dreaming serves more than one function (Hunt, 1989), and different dream contents may therefore also be beneficial in a traumatic environment. Wright and Koulack (1987) suggest that both mastery dreams incorporating
disruptive events and affects, and compensatory dreams avoiding painful events can predict good mental health. The effectiveness of the dream function depends on the stage of adaptation to and recovery from the traumatic event. Pleasant avoidance dreams may provide intermittent relief in the acute stage of trauma, whereas disruptive dreams may be beneficial in the later stages of recovery, serving to ventilate, work through and re-experience the traumatic events in a safe place.

The psychoanalytical approach also recognises different dream functions. It hypothesises that dreams characterised by bizarreness, vividness, and access to fantasy predict good mental health. The “dream work” of condensing, camouflageing, and symbolising is beneficial to mental health because it allows both compensation (wishful thinking) and mastery (repetition of shameful and painful themes) in a “dream like” manner (Adam-Silvan & Silvan, 1990; Weiss, 1992).

The aim of the present study is to understand what kinds of dream characteristics are beneficial to mental health among children living in a violent and dangerous environment. Following Wright and Koulack (1987), I hypothesise that dreams may fulfil the role of both attempting mastery over and compensating for painful experiences, and that their association with mental health depends on the severity and acute nature of the trauma.

Dreams involving attempted mastery incorporate the repetition of distressing scenes and ventilate intense feelings. Their beneficial role lies in their allowing children to re-experience painful events up to the point of integration with earlier successful solutions to similar problems (Breger et al., 1971; Cartwright & Lamberg, 1993; Greenberg & Pearlman, 1975). In the sample used here, such dreams apparently involved scenes of military violence, themes of anxiety, persecution and aggression, and the repetition of aversive scenes, and negative feelings.

According to the compensatory model, dreams substituting waking-life disappointments and contrasting adverse experiences result in good mental health (De Koninck & Koulack, 1975). In my sample, these dreams involved a pleasant atmosphere, positive feelings, bizarre and camouflage characters and scenes, and happy endings.

Dreaming may function as either a mediator or a moderator variable, or both, accounting for differences in mental health in traumatic environments. The mediating hypothesis of dreaming suggests that: (1) traumatic events are associated with both psychological symptoms and (2) dysfunctional dreams; and (3) these dysfunctional dreams are associated with poor psychological adjustment. (4) If dreaming serves a full mediating function, the association between traumatic events and psychological symptoms becomes nonsignificant or substantially attenuates by the addition of a beneficial dream variable to the model (Baron & Kenny, 1986; McClelland & Judd, 1993). It is hypothesised that the more traumatic events children
have, the more dysfunctional and/or the fewer beneficial characteristics their dreams involve, and this, in turn, is associated with a high level of psychological symptoms. This mediating path of dreaming explains the mental health risk to children exposed to traumatic events.

The moderating hypothesis suggests that traumatic events are not associated with psychological symptoms: (a) if children’s dreams incorporate percepts of violent themes, intensive negative feelings, the repetition of adverse scenes, and an unpleasant atmosphere (Attempts at mastery-function); or (b) if the dreams are bizarre, have happy endings and involve pleasant atmosphere and feelings (Compensation function).

Little dream research is available on children, and therefore the impact of gender, age, and living in a dangerous environment on dream content is also reported.

METHOD

Subjects

The subjects were 412 Palestinian children and adolescents, of whom 268 lived in conditions of political violence in the Gaza Strip and 144 in a peaceful area in Galilee, Israel. The subjects from Gaza are referred to as the trauma group and those from Galilee as the comparison group. Their ages ranged from 6 to 15 years, with a mean age of 11.22 ± 2.64. The proportion of boys (55%) was slightly larger than that of girls (45%), but there were no gender differences in age ($\chi^2 = 3.09, df = 2, P = n.s., n = 410$). The trauma and comparison groups were similar in gender ($\chi^2 = 0.0006, df = 1, P = n.s., n = 412$), and in age [$F(408,1) = 2.58, P = n.s., n = 410$].

The children and adolescents in the trauma group were selected by using random and systematic sampling procedures (Pedhazur & Pedhazur-Schmelkin, 1991). First, the places of residence were chosen according to the population distribution in the Gaza Strip. One town was chosen, and two refugee camps were allotted from eight possible ones. Second, following a random start, every third house was visited. The comparison group was from one Galilean village. First, the village was divided into four areas in order to secure the representation of all social strata. In each area, following a random start, every third house was visited.

Procedure

The researcher, together with a Palestinian psychologist, contacted the Gaza children and adolescents in their homes in September and October 1993. In Galilee, a local psychologist simultaneously contacted the comparison group children. The field work proceeded in two stages. First, the children and adolescents were asked to participate in the study and the dream diaries and
instructions were given to them. The parents’ (usually the mother’s) consent was naturally first asked. During the first visit the children were asked to fill in questionnaires concerning psychological symptoms and traumatic events. Second, after seven days, the field workers returned and collected the filled-in dream diaries.

The dream diary instructions were written in a tightly scripted and standardised statement in order to guarantee replication in each house. The field workers explained the dream diary and questionnaires to the child or group of children page by page, and gave standardised examples of how to report dreams and respond to the questions. They checked whether the children had understood the idea by asking them to provide some examples of how to fill in the questionnaire. The mothers of young children filled in the diaries as dictated by them. This involved 10 six- and 15 seven-year-old children.

The rate of return of the dream diaries was almost 100%: one child in Gaza and two in Galilee failed to fill in and return them. Of the total sample, four dream diaries were discounted due to missing information.

A pilot study examining children’s ability to recall and document their dreams was conducted in a summer camp. The researcher visited the camp for seven days and gave 10 girls and 7 boys a notebook with similar instructions as in the proper study. She reviewed the dream reports every morning, in some cases transcribed them and interviewed children about their dreaming habits. Even if the reporting conditions in the summer camp and home differed, the pilot study provided some norms for children’s dream recall and reporting styles.

Measures

A semi-structured dream diary was developed to assess dream content and structure. The recording period was one week. Participants were asked to record every morning the dream or the dreams that they had had the previous night. The diary had a separate sheet for each night, with 20 lines to be filled in: “Last night I dreamt that …”

Dream characteristics were analysed using the scoring systems of Foulkes (1982, 1985) and Gottschalk, Winget, and Gleser (1969). The former was developed especially for children and it is based on the cognitive approach to dreams. The latter follows the psychoanalytical approach emphasising both overt and covert dream content.

All the dreams were indexed using a qualitative scoring programme developed by Sulkunen and Kekäläinen (1992). It enables the occurrence of all different aspects of a dream to be registered statistically. Each dream may receive more than one score, and the dream characteristic scales were constructed by summing up all the corresponding scores that were registered
in each child’s dream reports. The dream characteristic scales are interval-type ratings, and their length varies according to the minimum and maximum scores found in the data. Their content and psychometric properties are presented in the Appendix, and scoring examples given elsewhere (Punamäki, 1997).

The reliability of the dream characteristic scales was measured according to inter-rater agreement on 70 randomly selected subjects who reported 196 dreams. The amount of agreement in registering the occurrence of each score that characterised a dream was summed up. Values greater than .80 suggest strong between-judges agreement (Fleiss, 1981). The inter-rater agreement percentages are given after each category.

There were nine dream characteristic scales. Bizarreness refers to the degree of strangeness, fantasy, and credibility. It was assessed on two separate scales, one indicating bizarre and the other nonbizarre and mundane scenes and actors (mean reliability, 93.7%). Vividness involves the degree of vision of colours and perspectives, feelings of texture and touch, and the appraisal of qualities. It was assessed on two separate scales, one indicating vividness and the other nonvividness (mean reliability, 93.1%). Activity refers to the dreamer playing an observing, participating or dominating role in the dream (reliability, 94%). Anxiety and persecution themes include events such as death, injury, destruction, separation, guilt, shame, and threat (reliability, 99.1%). Aggression and hostility themes reveal acts of killing, threatening behaviour, causing suffering, and expressing hostility (reliability, 92.5%). Dream atmosphere was scored as unpleasant and negative (reliability, 92%), pleasant and positive (reliability, 92%), with a happy ending (reliability, 93.7%), and with an unhappy ending (reliability, 88.3%). Dreamers’ feelings were scored as fearful (reliability, 100%), sad (reliability, 92.1%), and joyful (reliability, 88%). Human relationships were scored as involving attack and fright (reliability, 91.1%), avoidance (reliability, 86.1%), and approach and affiliation (reliability, 85.1%). Level of narrative content refers to the degree of advancement versus interruption of the dream story (reliability, 89%).

Repetitive dreaming was indicated by summing up the occurrence of dreams that featured the same adverse scene (anxiety, persecution, aggression, hostility) and threatening characters through seven nights. The criterion was the recurrence of the adverse issue in at least two-thirds of the dreams reported.

The total number of reported dreams naturally correlated with the values of the dream characteristic categories. The scores were therefore converted to proportions by dividing them by the number of dreams reported by each subject. The skewness of the distribution of the variables was tested, and when deviating, they were standardised by using arsine techniques (Cohen & Cohen, 1983, p. 265).
To check the existence of attempts at mastery and compensation structure in children’s dreams, the dream characteristic variables were submitted to principal component analysis, with orthogonal rotation. Based on the slope of the eigenvalues, four factors were extracted. They accounted for 61.4% of the variation of the dream characteristic variables. The dream content structure, including the dream characteristic variables, eigenvalues, and percentages of explained variation for each dimension, are presented in the Appendix.

_Dreams involving attempts at mastery_ were loaded on three factors. “Mundane persecution dreams” incorporated nonbizarre (.80) and nonvivid (.40) scenes, themes of anxiety, and persecution (.72), aggression and hostility (.90), and active participation (.66). Eigenvalue was 3.59 and the factor explained 22.5% of the variation. “Repetitive unpleasant dreams” involved an unpleasant atmosphere (.94), the repetition of adverse scenes (.84), fearful (.80), and sad feelings (.63). Eigenvalue was 2.91 and the factor explained 18.2% of the variation. “Attack dream” factor consisted of dreams with unhappy endings (.64), attacking and frightening human relationships (.77), and lack of narrative (.51). The factor’s eigenvalue was 1.38 and explanation of variance 8.6%.

_Compensatory dreams_ loaded on only one factor, named “Happy ending bizarre dreams”. They were characterised by bizarreness (.47), vividness (.82) happy endings (.50), pleasant atmosphere (.39), and joyful feelings (.39). The eigenvalue was 1.92 and it explained 12.1% of the variation.

_The psychological symptoms scale_ consisted of 34 items referring to aggressive, depressive, anxiety and somatic symptoms, cognitive problems, and intrusive thoughts. The participants indicated whether they suffered from each one (1) often, (2) sometimes, or (3) never. The construction of the scale was based on the following considerations. Internalisation by turning against oneself (e.g. withdrawal and depression), and externalising by turning against others (e.g. aggression), are considered the major dimensions of children’s problem behaviour, and these tendencies have been found to be relevant among children living in traumatic environments (Macksound, Aber, & Cohen, 1996). The psychological symptoms scale includes the depression (9 items), aggression (5 items), and anxiety (8 items) scales from the Child Behavior Inventory (CBI) developed by Macksound, Aber, Dyregrov, and Raundalen (1990). Our earlier research suggested that school performance may worsen, and concentration problems occur, as a consequence of exposure to traumatic events (Qouta, Punamäki, & El Sarraj, 1995), and therefore five items indicating problems in cognitive performance were included. “Somatisation” of problems is frequently discussed both in trauma literature and among Palestinian professionals. The children were therefore asked about common physical complaints (5 items). Finally, two items revealing recurring thoughts and intruding
bad memories about trauma refer to PTSD symptoms (Eth & Pynoos, 1985).

The dimensionality of the scale was checked by subjecting the items to principal component analysis with an orthogonal rotation. A five-factor solution was adopted using the criterion of eigenvalues being greater than one, and it explained 39% of the total variation. Composite variables were constructed by summing up the items with significant loadings on each dimension. The five subscores consisted of the following items (with their loadings):

I. **Depressive Symptoms.** I feel very lonely and rejected (.67), I feel terrible, sad, and hopeless (.62), I feel desperate (.55), I have an uncomfortable feeling in my stomach (.51), I often feel like crying and do not know why (.50), I have difficulties talking about my feelings (.53), I have lost my appetite (.45), I have difficulties falling asleep (.48). The eigenvalue of the depressive symptoms was 6.25, and it accounted for 18.4% of the total variation of the psychological symptoms.

II. **Somatic and Anxiety Symptoms.** I’m constantly thinking of bad and frightening things (.62), I am feeling sick and worried (.61), I feel tense and anxious (.56), I have a headache (.49), I have pains all over my body (.47), I have recurring thoughts about bad things that have happened (.47), I am feeling extremely tired and exhausted (.43), I am terribly afraid of loud noises (.36), bad memories intrude on my thoughts even if I do not want them to (.35). The eigenvalue of the factor was 2.27, and it accounted for 6.7% of the total variation.

III. **Sleeping Difficulties.** I often wake up in the middle of the night (.70), I feel scared and worried in bed (.64), I am feeling terribly frightened (.55), I am sleeping very badly (.42), I am afraid of darkness (.36), I have nightmares and bad dreams (.31). The eigenvalue of this factor was 1.87 and it accounted for 5.5% of the total variation.

IV. **Cognitive Problems.** I have difficulties in reading and writing (.72), I find it difficult to concentrate (.66), I get bad marks at school (.66), I feel sleepy during the day (.40), my thoughts are wandering (.36), I have difficulties remembering things (.31). The eigenvalue of this factor was 1.55, and it accounted for 4.6% of the total variation.

V. **Aggressive Symptoms.** I feel like hitting somebody (.66), I feel like breaking things (.58), I have fights with other kids (.59), I have quarrels with
adults (.52), I easily lose my temper (.38). The eigenvalue of the fighting and aggression factor was 1.37, and it accounted for 4.0% of the total variation of psychological symptoms.

The reliability of the psychological symptom scores was assessed by Cronbach’s alpha: total symptoms, .88; depressive symptoms, .76; somatic and anxiety symptoms, .74; sleeping difficulties, .64; cognitive problems, .58; and aggressive symptoms, .57.

The Traumatic Events Checklist consisted of 15 items describing events that Gaza children and adolescents typically experienced during the Intifada, such as night raids, detention, beatings, and wounding (Abu Hein, Qouta, Thabet, & El Sarraj, 1993; Summerfield, 1993). The participants were distinctly asked whether (yes = 2, no = 1) they themselves had been the victim, or if they had witnessed violence targeted on others or the destruction of property. For instance, whether they themselves or a family member had been wounded or detained. Two separate variables were constructed, the first summing up events involving the child him/herself as a victim and target, and the second summing up events targeted on others or the destruction of property. The child-targeted scale varied between 5 and 10, with 6.63 median and 1.39 standard deviations. The family-targeted scale varied between 6 and 12, with 8.44 median and 1.37 standard deviations.

The traumatic event checklist was irrelevant to the children in the comparison group. They were, however, asked about deaths in the family, and whether they had been wounded or hurt. In an analysis including both the trauma and comparison groups, only these two items were used to indicate the level of exposure, because they were the only ones to occur in both groups.

RESULTS

The results are presented in three sections. First, the impact of gender, age, and living in a traumatic environment on dream characteristic variables is reported. Second, structural equation modelling (SEM) was applied to test models in which dreams of attempted mastery and compensation dreams mediate the association between traumatic events and psychological symptoms. Third, moderated multiple regression was used to test an interactive model in which such dreams moderate the effects of traumatic events on psychological symptoms.

Background Variables and Dream Characteristic Variables

To study the impact of gender, age and a violent environment on dreaming, 2 (boys-girls) \( \times 3 \) (6–9, 10–12 and 13–15 years) \( \times 2 \) (trauma-control groups) between-subject ANOVAs were performed separately on each dream
characteristic variable. The means and standard deviations are presented in Tables 1 and 2.

**Violent Environment** showed main effects on dream bizarreness \( F(1,316) = 24.11, P = .0001 \), vividness \( F(1,307) = 10.12, P = .0001 \), attacking and frightening human relationships \( F(1,318) = 19.85, P = .0001 \), narrative content \( F(1,318) = 13.29, P = .0001 \), anxiety and persecution \( F(1,315) = 10.47, P = .001 \), and aggression and hostility \( F(1,308) = 42.80, P = .0001 \). The dreams of those in the trauma group were less bizarre, less vivid, and had less narrative content, and they involved more attacking and frightening relationships, anxiety, persecution, hostility, and aggression than the dreams of those in the control group.

**Age.** The older children reported more vivid \( F(2,318) = 7.29, P = .001 \), happily ending \( F(2,318) = 2.92, P = .055 \), and active \( F(2,318) = 4.76, P = .009 \) dreams than the younger ones.

**Gender.** The girls’ dreams were less bizarre \( F(1,316) = 4.14, P = .043 \), and involved fewer attacking and frightening human relationships \( F(2,318) = 5.51, P = .020 \), than the boys’ dreams.

An interaction effect between age and gender on unhappily ending dreams \( F(2,318) = 2.99, P = .052 \), indicates that such dreams increased with age among the girls but not among the boys. Violent environment \( \times \) gender interaction on anxiety and persecution dreams indicates that such dreams were more common among the boys in the trauma group and among the girls in the control group \( F(1,318) = 6.23, P = .013 \). Violent environment \( \times \) age interaction further revealed that anxiety and persecution dreams increased with age in the trauma group, and decreased in the control group \( F(2,318) = 4.35, P = .013 \).

**A Mediating Model of Dream Characteristics**

The Structural Equation Modelling (SEM) program was used to test the mediation role of dream contents. SEM simultaneously estimates multiple equations, includes latent variables, and tests direct and indirect paths (Hoyle & Smith, 1994). The analysis compares the covariances among the variables in the predicted model with the observed data, and estimates the goodness of fit between these two sets of covariances (Jöreskog & Sörbom, 1981). Four indices of fit are presented for each model: \( \chi^2 \)-value, LISREL’s Goodness-of-Fit Index (GFI), \( \chi^2/df \)-ratio and the Root Mean Square Error of Approximation (RMSEA). The smaller the \( \chi^2 \) relative to its degrees of freedom, the better the fit. The RMSEA index takes the parsimony of the
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<th>Anxiety and Persecution M (SD)</th>
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<th>Active Participation M (SD)</th>
<th>Unpleasant Atmosphere M (SD)</th>
<th>Repetitious Adverse Scenes M (SD)</th>
<th>Feelings of Fear M (SD)</th>
<th>Sad Feelings M (SD)</th>
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<td>0.03 (0.09)</td>
<td>0.01 (0.04)</td>
<td>0.20 (0.10)</td>
<td>0.15 (0.09)</td>
<td>0.12 (0.04)</td>
</tr>
<tr>
<td>Control group</td>
<td>97</td>
<td>0.44 (0.26)</td>
<td>0.25 (0.11)</td>
<td>0.14 (0.07)</td>
<td>0.55 (0.36)</td>
<td>0.36 (0.21)</td>
<td>0.13 (0.06)</td>
<td>0.94 (0.14)</td>
<td>0.01 (0.04)</td>
<td>0.00 (0.02)</td>
<td>0.16 (0.08)</td>
<td>0.14 (0.07)</td>
<td>0.15 (0.08)</td>
</tr>
</tbody>
</table>

**Note:** The scaling scores indicate that the higher the value, the more these dream characteristics the reported dreams included.
TABLE 2
Means and (Standard Deviations) for Compensatory Dream Characteristics

<table>
<thead>
<tr>
<th>Dimension:</th>
<th>Happy Ending</th>
<th>Bizarre Dreams</th>
<th>Vivid</th>
<th>Happy endings</th>
<th>Joyful Feelings</th>
<th>Pleasant Atmosphere</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>142</td>
<td>0.19 (0.13)</td>
<td>0.23 (0.13)</td>
<td>0.16 (0.08)</td>
<td>0.04 (0.07)</td>
<td>0.02 (0.21)</td>
</tr>
<tr>
<td>Boys</td>
<td>177</td>
<td>0.17 (0.11)</td>
<td>0.23 (0.13)</td>
<td>0.17 (0.09)</td>
<td>0.04 (0.06)</td>
<td>0.11 (0.36)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6–8</td>
<td>103</td>
<td>0.17 (0.11)</td>
<td>0.19 (0.10)</td>
<td>0.15 (0.07)</td>
<td>0.04 (0.07)</td>
<td>0.07 (0.20)</td>
</tr>
<tr>
<td>9–12</td>
<td>110</td>
<td>0.19 (0.14)</td>
<td>0.24 (0.14)</td>
<td>0.17 (0.10)</td>
<td>0.04 (0.07)</td>
<td>0.13 (0.37)</td>
</tr>
<tr>
<td>13–15</td>
<td>106</td>
<td>0.18 (0.10)</td>
<td>0.26 (0.13)</td>
<td>0.18 (0.09)</td>
<td>0.04 (0.06)</td>
<td>0.10 (0.31)</td>
</tr>
<tr>
<td>Traumatic environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma Group</td>
<td>223</td>
<td>0.17 (0.12)</td>
<td>0.23 (0.14)</td>
<td>0.17 (0.09)</td>
<td>0.05 (0.07)</td>
<td>0.23 (0.36)</td>
</tr>
<tr>
<td>Control Group</td>
<td>97</td>
<td>0.20 (0.11)</td>
<td>0.23 (0.11)</td>
<td>0.15 (0.08)</td>
<td>0.02 (0.04)</td>
<td>0.24 (0.31)</td>
</tr>
</tbody>
</table>

Note: The scaling scores indicate that the higher the value, the more these dream characteristics the reported dreams included.

model into account (i.e. the number of fixed parameters versus the number of parameters free to be estimated (Brown & Cudeck, 1993).

The models test associations between traumatic events, dreams of attempted mastery, and compensatory dreams, and psychological well-being, in the trauma group. In all models, psychological well-being was a latent variable measured using depressive, somatic, anxiety, and aggression symptoms, and sleeping difficulties and cognitive problems as indicators. Traumatic events were indicated by: (a) violence in which the child him/herself was the victim; and (b) the child witnessing violence targeted on others and the destruction of property.

The goodness-of-fit indexes of models that test the mediating hypothesis of dreaming are presented in Table 3. The first model included only traumatic events and psychological well-being. The results showed that the more traumatic events the child had experienced, the more he/she reported psychological symptoms (path coefficient = .35, SE = 0.09, t = 2.92, P < .01). Each indicator loaded significantly on the corresponding latent variable.

Two separate models were found for dreams of attempted mastery. The “mundane persecution dreams” model involves four latent dream variables: nonbizarre, nonvivid, anxiety and persecution, and aggression and hostility. Each indicator loaded significantly on the latent dream variable and
TABLE 3
Goodness-of-Fit Indexes for Models of a Mediating Role of Dreams in the Trauma Group

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>GFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trauma—well-being</td>
<td>55.91</td>
<td>13</td>
<td>0.94</td>
<td>0.11</td>
</tr>
<tr>
<td>Mundane persecution dreams</td>
<td>145.45</td>
<td>73</td>
<td>0.85</td>
<td>0.08</td>
</tr>
<tr>
<td>Repetitive attack dreams</td>
<td>136.43</td>
<td>53</td>
<td>0.89</td>
<td>0.07</td>
</tr>
<tr>
<td>Compensatory dreams</td>
<td>142.69</td>
<td>60</td>
<td>0.90</td>
<td>0.08</td>
</tr>
</tbody>
</table>

symptom dimensions, with the exception of cognitive problems on the latent psychological well-being variable. The model and the path coefficients are presented graphically in Fig. 1.

The results show that mundane persecution dreams mediated the association between traumatic events and psychological well-being. The more traumatic experiences the children had had, the more their dreams incorporated mundane and persecuting themes (*path coefficient* = .20, *SE* = 0.00, *t* = 2.57, *P* < .01), and the more they had these dysfunctional dreams, the worse was their psychological well-being (*path coefficient* = .19, *SE* = 0.02, *t* = 2.39, *P* < .01). A nonsignificant path was found between traumatic events and psychological well-being (*path coefficient* = .08, *SE* = 0.04, *t* = 1.09, *P* > n.s.).

The “repetitive attack dreams” model involves five manifest dream characteristic variables: attacking and frightening relationships, a combination of an unpleasant atmosphere and negative feelings, a lack of narrative content, repetition of adverse scenes, and unhappy endings. Table 3 shows that the model provided a reasonably good fit to the data. Each indicator loaded significantly on the corresponding latent variable. The model and the path coefficients are presented graphically in Fig. 2.

The model indicated that the association between traumatic events and psychological well-being was both direct and indirect, mediated by the repetitive attack dreams. The more traumatic experiences the children had had, the poorer was their psychological well-being (*path coefficient* = .25, *SE* = 0.14, *t* = 2.10, *P* < .01), and the more repetitive attack dreams they reported (*path coefficient* = .26, *SE* = 0.00, *t* = 2.10, *P* < .01). The repetitive attack dreams, in turn, were associated with poor psychological well-being (*path coefficient* = .26, *SE* = 0.23, *t* = 2.52, *P* < .01).

The compensatory dream model involves five manifest dream characteristic variables: bizarreness, happy ending, a pleasant atmosphere, the dreamer’s joyful feelings, and active participation. The model provided a reasonably good fit to the data. Compensatory dreams failed to mediate between traumatic events and the children’s psychological well-being: the more traumatic events the children had experienced, the more psychological
FIG. 1. Structural equation model of Mundane Persecution Dreams mediating between traumatic environment and psychological adjustment in the trauma group (N = 258). Circles indicate latent variables and boxes manifest variables. Standardised estimates paths, marked with complete lines are significant at the P < .05 level, and with dashed lines nonsignificant.
FIG. 2. Structural equation model of Repetitive Attack Dreams mediating between traumatic events and psychological adjustment in the trauma group (N = 258). Circles indicate latent variables and boxes manifest variables. All standardised estimate paths are significant at the \( P < .05 \) level. Each measurement model includes one fixed parameter.
symptoms they reported (path coefficient = .30, SE = 0.05, t = 3.60, P < .05), but association was found neither between traumatic events and compensatory dreams (path coefficient = .03, SE = 0.03, t = 0.35, P < n.s.), nor between compensatory dreams and psychological well-being (path coefficient = −0.01, SE = 0.14, t = 0.02, P = n.s.).

To conclude, all models of dreaming mediating between traumatic events and psychological well-being showed only a reasonable fit. Mundane persecution dreams served a full mediating function (i.e. the association between traumatic events and psychological symptoms became nonsignificant in models including them). The mundane persecution dreams model and the trauma-symptom model also significantly differed [a chi-square difference test (60) = 89.54, P < .009], which indicates that the associations between variables differ in the two models including and excluding mundane persecution dreams. Similarly, the repetitive attack dream model significantly differed from the trauma-symptom model [a chi-square difference test (40) = 80.52, P < .0001]. The latter showed both direct and mediated paths between traumatic events and psychological adjustment.

I further examined the mediation model of all dreams of attempted mastery in the whole sample, including both the trauma and the comparison groups. The manifest variable of the trauma versus the control group was used as an indication of a traumatic environment.\(^1\) The final model involved six manifest dream characteristic variables indicating a latent variable of dreams of attempted mastery: aggression and hostility, nonbizarreness, anxiety and persecution, attacking and frightening human relationships, repetition of aversive scenes, and unhappy endings. Figure 3 presents the model of attempted mastery dreams mediating between a traumatic environment and psychological well-being. It only provides a reasonable fit to the data. The \(\chi^2\) value was \(\chi^2 (63, N = 358) = 204.65, P > .0001;\) The Goodness of fit index (GFI) was 0.87; GFI-adjusted for the degree of freedom, 0.81; and RMSEA Estimate 0.08.

The results showed an indirect association between living in a violent environment and psychological well-being, which was mediated by dreams of attempted mastery. Children in the trauma group reported more of these dreams (path coefficient = 0.18, SE = 0.00, t = 3.05, P < .05), and the more dysfunctional dreams the children had, the poorer their psychological well-being (path coefficient = 0.16, SE = 0.54, t = 2.35, P < .05).

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\(^{1}\) Two experiences, the death of a family member and being personally wounded or hurt, could occur in both groups. Yet, as they were used as manifest variables indicating the latent variable of traumatic events, the SEM model turned out to be nonsignificant.
FIG. 3. Structural equation model of Dreams of Attempted Mastery mediating between traumatic events and psychological adjustment in the whole sample (N = 358). Circles indicate latent variables and boxes manifest variables. All standardised estimate paths are significant at the P < .05 level. Each measurement model includes one fixed parameter.
Moderation Effects of Dreams

To test for moderation, multiple regression analyses were performed in which the cross product of three mastery and one compensatory dream factor scores, and traumatic events, was added to the relevant main effects, with the psychological symptom scores as the criterion variables. The moderating analyses were conducted separately in the trauma and control groups. The results show significant interactions only in the trauma group, and the significant models are presented in Table 4.

### TABLE 4

<table>
<thead>
<tr>
<th></th>
<th>Depressive Symptoms</th>
<th>Somatic and Anxiety</th>
<th>Total Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>t</td>
<td>Beta</td>
</tr>
<tr>
<td>I. Predictors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic events</td>
<td>.14</td>
<td>2.10*</td>
<td>.28</td>
</tr>
<tr>
<td>Happy ending bizarre dreams</td>
<td>.07</td>
<td>1.01</td>
<td>.17</td>
</tr>
<tr>
<td>Trauma × Happy ending bizarre dreams</td>
<td>-.08</td>
<td>-1.01</td>
<td>-.12</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.05</td>
<td></td>
<td>.14</td>
</tr>
<tr>
<td>$F$</td>
<td>2.07*</td>
<td></td>
<td>10.09***</td>
</tr>
<tr>
<td>$df$</td>
<td>(3,211)</td>
<td></td>
<td>(3,213)</td>
</tr>
<tr>
<td>II. Predictors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic events</td>
<td>.10</td>
<td>1.55</td>
<td>.25</td>
</tr>
<tr>
<td>Repetitious unpleasant dreams</td>
<td>.10</td>
<td>1.57</td>
<td>.22</td>
</tr>
<tr>
<td>Trauma × Repetitious unpleasant dreams</td>
<td>-.08</td>
<td>-0.78</td>
<td>-.05</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.05</td>
<td></td>
<td>.13</td>
</tr>
<tr>
<td>$F$</td>
<td>3.01*</td>
<td></td>
<td>10.63***</td>
</tr>
<tr>
<td>$df$</td>
<td>(3,211)</td>
<td></td>
<td>(3,213)</td>
</tr>
<tr>
<td>III. Predictors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic events</td>
<td>.11</td>
<td>1.59</td>
<td>.28</td>
</tr>
<tr>
<td>Attack dreams</td>
<td>.14</td>
<td>1.93*</td>
<td>.00</td>
</tr>
<tr>
<td>Trauma × Attack dreams</td>
<td>-.01</td>
<td>-0.27</td>
<td>.07</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.04</td>
<td></td>
<td>.09</td>
</tr>
<tr>
<td>$F$</td>
<td>2.76**</td>
<td></td>
<td>7.14***</td>
</tr>
<tr>
<td>$df$</td>
<td>(3,211)</td>
<td></td>
<td>(3,213)</td>
</tr>
</tbody>
</table>

*P < .05; **P < .01; *** P < .001.
A negative interaction effect between traumatic events and “Happy ending bizarre dreams” indicates that traumatic events did not associate with psychological symptoms among children whose dreams were pleasant, bizarre, and vivid, and incorporated happy endings and active participation.

The main effects of dreams of attempted mastery on psychological symptoms, in turn, indicated that these dreams were not able to moderate the negative impact of traumatic events on psychological symptoms. The more the children had “Repetitious unpleasant” and “Attack dreams”, the more they suffered from psychological symptoms, especially somatic and anxiety symptoms.

DISCUSSION

Even if the relationship between trauma and mental health symptoms is well established, less knowledge is available about the underlying mechanism explaining the link. In order to help victims, it is imperative to be aware of all the potential processes contributing to recovery from trauma and the protection of mental health. We examined the mental health role of one emotional-cognitive regulating process, that of dreaming. The question was whether certain dream characteristics are beneficial and others poisonous for psychological well-being among children suffering from loss, threat, and destruction.

We hypothesised that various, even antithetical dreams may be beneficial for mental health in traumatic conditions. Dreams of attempted mastery incorporate disruptive events and allow intensive ventilation of feelings, whereas compensatory dreams avoid and camouflage painful memories in dream bizarreness and happy endings (Stewart & Koullack, 1993; Wright & Koullack, 1987). The compensatory dream function is beneficial in the acute stage of stress in inoculating painful feelings and hiding disruptive reality. Little by little, it is argued, children strengthen themselves against painful memories, and “mastery” dreams enable them to ventilate and integrate distressing feelings.

The results of the principal component and SEM analyses suggest the presence of two-pattern dreams in children’s home reports, dreams of attempted mastery and compensation dreams. This result is noteworthy, because the dreams were scored by using standard procedures depicting dream bizarreness, content, scenes, atmosphere, feelings, activity, relationships, and outcomes. Empirical dream research typically reports the presence of single contents and characteristics, without any effort to analyse dream patterns and dimensions.

Compensatory dreaming was conceptually one-dimensional, characterised by bizarre, camouflaged, and happy scenes, atmospheres and outcomes. Dreams of attempted mastery consisted of three separate
dimensions, distinguished by the presence of emotional expression. In mundane persecution and attack settings, the dreamer typically documented military scenes in a detached and unemotional tone, whereas repetitious, unpleasant dreams typically incorporated intensive negative, sad, and fearful feelings.

The expression, intensity and repertoire of emotions also seem to differentiate between the two main dream patterns, those attempting mastery and those attempting compensation. The following extracts from two dream diaries are presented in order to show the core differences. Both dreamers are 11-year-old girls who live in the same refugee camp. The first girl scored high on attempts at mastery the second on compensatory dream scales.

**Dreams of attempted mastery**

1. **Night.** I dreamt that the camp was full of soldiers. They are following the people and shooting bullets at them. I was running away, and I did not know where to go. The soldiers were following and chasing me and trying to catch me. I screamed loudly and then I woke up screaming.

2. **Night.** I dreamt that I was going to school and the streets were full of people. I saw some young masked men, running among the people. I got scared I ran away, I fell into a deep hole. Nobody saw me, I started to cry. “Save me”, I shouted. Nobody heard me, I woke up.

3. **Night.** I was walking in the market place and there were cars. The car entered the street, and when it had passed me it stopped. The passengers got out and followed me. I screamed, but my voice did not come out from my throat. Nobody heard me. I woke up.

7. **Night.** I was on the beach, and the army soldiers followed me. Other children ran away, but I could not run away, and was trapped in my place. The sea was high, and the waves, all the waves were covering me with water, I was screaming.

**Compensatory dreams**

1. **Night.** I dreamt that I am in a boat on the sea, catching mudfish, it escaped from me, and finally I took it out of the water. It became animated and I watched it.

2. **Night.** I dreamt that my mother gave birth to a baby girl. I was very happy and began kissing her. When my mother saw me, she was happy and gave me sweets.

3. **Night.** I don’t remember my dream, except that I saw a snake, running.

7. **Night.** I dreamt that I was walking in a big playground. All my friends were running and playing. But I didn’t play with them because I was tired of walking. I was angry because I couldn’t share in their playing. It became dark and I couldn’t find my mother and brothers. I saw light
from far away. I was happy and began walking until I reached the street. I saw that everybody had gone to their houses.

These extracts illustrate that specific dream topics, plots, actors, and scenes, and the degree of bizarreness and narrative, differentiate attempts at mastery and compensatory dynamics in dreams. Whereas the first dreamer is solely a passive and persecuted victim, the second is an active participant who experiences various dream themes and atmospheres. Furthermore, although the themes in the first diary mostly involve realistic military scenes, repetitious threat, and being hunted, the second diary incorporates various themes of a fantasy world, family, and peer relationships. In the first diary, all the dreams are interrupted by dreadful waking-up, while the second diary consists of happy ending narratives. Finally, the dreamer in the compensatory example expresses her own emotions, both negative and positive, whereas the first dreamer documents the adverse events in a rather detached way.

The repertoire of various themes and emotional intensity thus characterises happy ending bizarre dreams, and mundane persecution dreams present the other end of narrow themes and the absence of emotions. Living in a traumatic environment alters emotional expression, and children tend to control, repress, and deny feelings of fear and rage (Rofe & Lewin, 1982). Access to one’s own feelings, however, is considered beneficial to mental health, and emotional expression in dreams facilitates this beneficial function. Emotions evoke a broad arrow of memories to be fused into dreams, which promotes an integrating and balancing function (Nielsen, Kuiken, & McGregor, 1989). Our earlier results suggested some balancing dynamics between waking and dreaming emotional expression in traumatic environments. Children who frequently used repressive and denying coping strategies (in the day), more frequently recalled their dreams (Punamäki, 1997), and their dreams incorporated more emotional expressions (Punamäki, in press). Dreaming may thus provide children with a safe haven to ventilate feelings and show intensive emotions without fear of daytime intimidation and abuse.

Dreams as Safeguarding Angels?
The protective role of dreaming means that traumatic events are not associated with mental health symptoms if children’s dreams incorporate beneficial and/or lack dysfunctional characteristics. This assumption may seem daring, because literature provides rather contradictory views on the genesis and function of dreams. There is no consensus on whether dreaming contributes to the adaptive capacity of the individual (Blagrove, 1992; Cartwright, 1991; Hobson, 1990; Stewart & Koulack, 1993). Some
researchers also regard trauma-related dreaming as symptoms themselves rather than as an emotional-cognitive process of attempting to master or compensate traumatic experience.

The results of this study suggested that compensatory dreams could be beneficial to psychological well-being among children living in violent and dangerous environments. Exposure to traumatic events was not associated with psychological symptoms if the children had bizarre, vivid, pleasant, joyful, and happily ending dreams. Dreams of attempted mastery, in turn, did not serve a moderating role. Rather, the more the dreams incorporated repetitious, unpleasant, and aggressive characteristics, the more the children suffered from psychological symptoms.

Researchers argue that the effectiveness of different dreams depends on the point in the adaptation process. Pleasant compensatory dreams provide intermittent relief in acute stress, whereas dreams attempting at mastery enable the ventilation of feelings and the re-experiencing of painful experiences in the safety of later stages of recovery (Stewart & Koulack, 1993). The results of this study can be interpreted to concur with this argument. The trauma group continued to live in a dangerous environment and had acutely suffered from violence, loss, and destruction. Their repetitious, unpleasant, and attacking dreams failed in their ventilating and balancing function, apparently, because the children woke-up to a similarly threatening reality. On the other hand, compensatory dreams with comforting happy endings were associated with good psychological well-being, even if the children had suffered traumatic events.

Re-experiencing the trauma through intrusive memories, anxiety dreams, and nightmares is characteristic of people suffering from post-traumatic stress disorder (Horowitz, 1986; Horowitz, Stinson, & Field, 1991). The sample used here was not a patient group, but a group of randomly selected children living in a violent environment. Their attempts to integrate their traumatic experiences into their identity and memory schemata are crucial for their mental health. Their compensatory dreams involved “successful dream work” (Freud, 1990/1953) in that they camouflaged the painful reality. Compensatory dreaming apparently constituted a kind of “mental lacuna” that is necessary until children have integrated traumatic experiences into healthy development. Until integration has succeeded, bizarre, vivid, and happy ending dreams facilitate the maintenance of good mental health despite traumatic events.

On the other hand, mundane persecution and repetitious attack dreams indicate that trauma is intensively incorporated in dreams, but fails to be integrated and transformed into a less painful vision. The mediating models confirmed that the more traumatic events the children had experienced, the more mundane persecution and repetitious attack dreams they reported. A full mediating model was found only for mundane persecution dreams:
Traumatic events were associated with mental health only indirectly, via dreams incorporating photographic replications of real-life persecution, injuries, and killings. These dream contents typically failed to camouflage the traumatic reality of the children’s living environment. The lack of dream bizarreness is a hallmark of a failure to work through traumatic material, or to maintain good adjustment (Kaminer & Lavie, 1991; Kramer, Schoen, & Kinney, 1987).

The research setting did not, however, provide adequate means for arguing for the beneficial role of compensatory dreams in acute trauma. The security situation in the Gaza Strip has been dangerous throughout the childhood of the participants, and armed struggle has intensified during the last six years. The comparison group, in turn, had not experienced similar events. The results failed to show any moderating dream function in the comparison group, which could have provided proof that dreams of attempted mastery are beneficial in safe conditions.

Results based on a cross-sectional study setting are only tentative. They provide an initial and exploratory look at the role of dreaming in children’s responses to traumatic events. If definite conclusions about the beneficial effects of dreaming are to be drawn, the measurement of dream characteristics, the moderator variable, should be causally antecedent to psychological adjustment, the criterion variable (Baron & Kenny, 1986). Therefore it is impossible to conclude whether children suffer from anxious and aggressive symptoms because their dreams incorporate persecution and aggression, or vice versa. Future research should analyse the process of changing dream patterns according to the levels of exposure to and long-term recovery from traumatic events. These results suggest, however, that the focus should be expanded from symptom assessment to an analysis of dynamics of success and failure in children’s emotional-cognitive integrative processes, such as dreaming, imagination, and playing.

It is noteworthy that exposure to traumatic events was associated with unpleasant dreams of attempted mastery, but did not affect pleasant “compensatory” dreams. The results concur with our earlier research on Middle-Eastern children that suggested that traumatic events tend to leave some psychological resources intact, such as creativity and perceived loving parenting (Punamäki, Qouta, & El Sarraj, 1995, 1997), and even to foster others, such as activity, problem solving (Punamäki & Puhakka, 1997), and ideological commitment (Punamäki, 1996). This phenomenon demonstrates the human tendency to summon all available resources when facing stress. We may hypothesise that compensatory dreams also contribute to that tendency in a severely traumatic environment.

Gender differences in dream content concurred, in interaction with age and a violent environment, with the results of earlier research. Women’s dreams have been found to reflect negative aspects, such as the self character
failing or being deprived, attacked, and excluded, more than men’s dreams (Cartwright, 1992; Hartmann, 1989). This tendency was evidenced among older children, and only among those in the control group. Unhappily ending dreams were shown to increase with age among girls, but not among boys. In the peaceful area, girls reported more anxiety and persecution dreams than boys, whereas in the violent environment boys showed more negative dreams. Boys and girls thus dream differently in peaceful and violent environments. The fact that the dreams of the Gaza boys incorporated negative themes of death, persecution, fighting, and killing may relate to their role in the Intifada struggle. Boys are considered Palestinian national heroes and they often participated in street fighting (Kostelny & Garbarino, 1994). These experiences may have penetrated more into boys’ dreams than into the dreams of girls, who are more protected. A more detailed analysis of the content of dreams is needed to support this argument.

There was a high compliance rate in this study, and almost all the children returned their dream diaries. This may be due to the fact that the Middle-Eastern Arab culture recognises multiple levels of reality, which may be explored via dreaming. Children are encouraged to narrate their dreams, and the Palestinian society respects persons with good visual dream recall abilities. Children liked to document their dreams and considered the study procedure easy to follow. The fact that the researchers returned to the homes after one week may also have contributed to the compliance.

Critics of this study will point to the one-source measurement of psychological symptoms. We failed to ask the mothers to report their children’s symptoms. At the time of the field work, it was felt to be potentially upsetting, and might have disturbed the children’s daily dream reporting. Critics might also focus on my choice of assessing dream content by subjective reporting. Contemporary dream research relies strongly on laboratory settings and physiological measurements of sleep and dreaming. The results of this study are based on phenomenological approach, and on the subjective reporting of dreams. The choice was justified, because spontaneous morning dream recall illustrates the cumulative effects of the night’s dreaming, and enables the generalisation of the results in in vivo situations (Stewart & Koulack, 1993). However, results based on open-ended self-report measures of dreaming may be influenced by children’s verbal and memory abilities, parental encouragement versus indifference, and selective reporting due to social desirability.

Finally, the relationship between dream content and real experience is far from simple. As with problems with children’s symbolic play (Fein, 1981), it is difficult to define whether dreams replicate real life, compensate for life’s shortcomings, or express repressed material. To define more accurately how dreams might foster a good psychological adjustment, an analysis of their content, narrative structure, and problem-solving patterns is needed. It
would be interesting to know what kind of dream stories serve the integration of children’s traumatic experiences, and how such integration takes place.

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Revised manuscript received July 1997

REFERENCES


### APPENDIX

Dream characteristic variables, scale lengths, factor loadings, eigenvalues, and percentages of variation for dream structure dimensions

<table>
<thead>
<tr>
<th>Dream Characteristic Scales</th>
<th>Scale Length</th>
<th>Factor Loadings</th>
<th>Communality</th>
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<td></td>
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<td>F1</td>
<td>F2</td>
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<td><strong>F1. Mundane persecution dreams</strong></td>
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<td>Nonbizarre and mundane scenes and characters</td>
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<td>Active participation</td>
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<td>Anxiety and persecution</td>
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<td>.15</td>
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<td>Aggression and hostility</td>
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<td>.56</td>
<td>.01</td>
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<td>Nonvividness</td>
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<td>.01</td>
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<td><strong>F2. Repetitive unpleasant dreams</strong></td>
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<td>.13</td>
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<td>Lack of narrative content</td>
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<td>.08</td>
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<td><strong>Eigenvalue</strong></td>
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<td><strong>Percentage of the variance explained</strong></td>
<td>22.5</td>
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*Note: The scale length is original and not standardised.*