ABSTRACT: The phenomenon of “posttraumatic play” (PTP) has received much clinical recognition and little empirical support. The objective of this study was to examine various aspects of PTP in young children exposed to terror events and their relation to posttraumatic stress disorder (PTSD). Individual play sessions, conducted with 29 young Israeli children directly exposed to terrorism (M age = 5.47, SD = 1.34) and 25 matched unexposed children (M age = 5.62, SD = 0.87), were coded using the Children’s Play Therapy Instrument–Adaptation for Terror Research (CPTI-ATR; S.E. Chazan & E. Cohen, 2003). Analyses using these ratings showed (a) significant differences between the two groups, (b) significant associations with the caregiver’s reports on child’s exposure, and (c) significant associations with the caregiver’s reports on the child’s PTSD symptoms. Play activity ratings of predominant negative affects, frequent acting-out/morbid themes, lowered developmental level, and reduced awareness of the child of him- or herself as a player significantly predicted more PTSD symptoms. PTP which included more coping strategies classified as “overwhelmed reexperiencing” and less “reenactment with soothing” was associated with a higher level of PTSD. Play analysis with the CPTI-ATR may be helpful in identifying PTSD in children and also guide the selection of therapeutic techniques.

RESUMEN: El fenómeno del “juego post-traumático” (PTP) ha recibido mucho reconocimiento clínico y poco apoyo empírico. El objetivo de este estudio fue examinar varios aspectos de PTP en niños pequeños expuestos a eventos de terror y su relación con los trastornos de estrés post-traumáticos (PTSD). Las
sesiones individuales de juego, realizadas con 29 niños israelíes pequeños, expuestos directamente al terrorismo (edad media = 5.47, sd = 1.34), y un grupo de comparación de 25 niños no expuestos al terrorismo (edad media = 5.62, sd = 0.87), fueron codificadas usando el Instrumento de Terapia del Juego de Niño, CPTI-ATR. Los análisis, usando esos puntajes, mostraron: a) diferencias significativas entre los dos grupos; b) significativas asociaciones con los reportes dados por quienes les cuidaban en cuanto al enfrentamiento con situaciones de terrorismo; y c) significativas asociaciones con los reportes de quienes les cuidaban en cuanto a los síntomas de PTSD en el niño. Los puntajes en las actividades de juego acerca de los predominantes afectos negativos, el frecuente uso de temas mórbidos en las actuaciones, el bajo nivel de desarrollo, y el reducido conocimiento que el niño tenía de sí mismo como jugador, predijeron significativamente más síntomas de PTSD. El juego post-traumático (PTP), el cual incluyó más estrategias de saber arreglárselas clasificadas como “excesivas experiencias repetidas,” y menos “puesta en acción con alivio” se asoció con un más alto nivel de PTSD. El análisis del juego usando CPTI-ATR pudiera ser de ayuda para identificar PTSD en los niños y también guiar la elección de las técnicas terapéuticas.

RÉSUMÉ: Le phénomène de “jeu post-traumatique” (abrégé ici JPT, pour PTP en anglais) a reçu pas mal de reconnaissance clinique et peu de soutien empirique. L’objectif de cette étude était d’examiner les différents aspects du JPT chez les jeunes enfants exposés à des événements de terreur et leur relation au trouble de stress post-traumatique (TSPT). Des sessions individuelles de jeu, menée avec 29 jeunes enfants israéliens directement exposés au terrorisme (âge moyen = 5.47, Déviation Standard = 1.34), et 25 enfants de contrôle non exposés (âge moyen = 5.62, Déviation Standard = 0.87), ont été codées en utilisant une adaptation de l’instrument CPTI-ATR (Children’s Play Therapy Instrument). Les analyses utilisant ces évaluations ont fait état de: (a) différences importantes entre les deux groupes ; (b) associations importantes avec les rapports du mode de soin sur l’exposition de l’enfant ; et (c) associations importantes avec les rapports des modes de soin sur les symptômes TSPT de l’enfant. Les évaluations faites à partir de l’activité de jeu d’affects négatifs, les thèmes fréquents morbides, ou d’extériorisations, un niveau de développement abaissé, et une conscience réduite qu’à l’enfant de soi en tant que joueur ont tous, de manière significative, prédit plus de symptômes TSPT. Le JPT qui incluait plus de stratégies mises en place pour faire face classifiées comme une “ ré-expérience débordée ” et moins de “ re-constitution avec apaisement ” était lié à un plus haut niveau de TSPT. L’analyse de jeu avec le CPTI-ATR peut être utile pour identifier le TSPT chez les enfants et aussi guider la sélection de techniques thérapéutiques.

Growing evidence (Perrin, Smith, & Yule, 2000; Salmon & Bryant, 2002; Stover & Berkowitz, 2005) has suggested that contrary to previous assumptions, children, particularly young children, are at risk for developing posttraumatic stress disorder (PTSD) or related symptoms (American Psychiatric Association, 2000). Yet, in contrast with available detailed clinical reports of posttraumatic reactions in young children (Fremont, 2004; Gil, 1998; Terr, 1990), empirical research about the experience and sequelae of trauma exposure among young children is sparse (Almqvist & Brandell-Forsberg, 1997; Salmon & Bryant, 2002; Scheeringa, Peebles, Cook, & Zeanah, 2001). This deficit has been attributed to the lack of adequate criteria and procedures for competent diagnosis of PTSD in young children (Drake, Bush, & van Gorp, 2001; Stover & Berkowitz, 2005).

Immaturities in emotional regulation, social cognition, information processing, language, and memory act together to impact upon available coping responses in young children when faced with traumatic events. These immaturities particularly impact upon integration of the traumatic memory into the self-schema of the child (Salmon & Bryant, 2002). Further distortions in processing of traumatic events are accentuated by magical thinking and difficulties shifting perspective. These distorted perceptions are paired with responses of denial and suppression affecting family and community members. Our adult role in protecting young children often leads to an immediate barrier defending us from recognizing and acknowledging the grim facts of life to which these young victims have been exposed, thus depriving them of adult assistance.
in processing these realities (Coates, Schechter, & First, 2003; Osofsky, 1995; Terr, 1990). Denial and suppression may explain the findings of limited reliability of caregivers as reporters of symptoms of posttraumatic distress in their children and their tendency to belittle or ignore its apparent signs (Koplewicz et al., 2002; Stover & Berkowitz, 2005).

PLAY ACTIVITY AS A PORT OF ENTRY

Since young children are limited in their ability to directly reflect and verbally report about their feelings and symptoms, there is a need to employ a variety of expressive means and projective techniques in evaluating children exposed to traumatic events (Nader & Pynoos, 1991; Scheeringa et al., 2001; Stover & Berkowitz, 2005). Clinical work has demonstrated that play activity provides a context within which the child can express the realities of his or her subjective experience (Chazan, 2002a; Gil, 1998; Ryan & Needham, 2001). Play activity functions in various ways to help the young child rework unpleasant experiences, gain self-efficacy, reduce arousal, make negative experiences more predictable, and recreate meaning from overwhelming chaos (Marans, Mayes, & Colonna, 1993). Because play observation is nonintrusive, child-friendly, and potentially beneficial, we chose it as our port of entry. Play activity provides entry into understanding the effects of intrusive violence upon a child’s capacity to cope and also serves to restore a measure of comfort and interpersonal trust.

The phenomenon of “posttraumatic play” (PTP) has been described in clinical reports as play activity with a driven, serious, and morbid quality (Gil, 1998; Nader & Pynoos, 1991; Terr, 1983; Varkas, 1998). Characteristically, the play activity consists of repetitive unresolved themes, increased aggressiveness and/or withdrawal, fantasies linked with rescue or revenge, reduced symbolization, and concrete thinking. The Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR; American Psychiatric Association, 2000) also recognizes the importance of repetitive play with traumatic themes as diagnostic of reenactment symptoms of PTSD in children.

A few studies have attempted an empirical examination of PTP (Alessandri, 1991; Findling, Bratton, & Henson, 2006); however, these studies have focused on maltreated children exposed to familial abuse and neglect. No empirical studies of children’s play in the aftermath of collective traumatic events (e.g., war, terrorism, natural disasters) could be found in the current literature despite the growing evidence of the harmful consequences of these events for children’s development and mental health (Joshi & O’Donnell, 2003; Pine, Costello, & Masten, 2005; Thabet, Karim, & Vostanis, 2006). Furthermore, existing empirical studies have employed a narrow perspective, examining only the pathological clinically reported signs of PTP; however, clinical observations have demonstrated that PTP may be potentially adaptive as well as maladaptive (Nader & Pynoos, 1991; ZERO TO THREE, 2005). Relatively little is known about the adaptive aspects of PTP.

The purpose of this empirical research was to study the play activity of young children exposed to terror events in an attempt to validate characteristics of PTP associated with PTSD and posttraumatic distress as well as with resilience. Hypotheses were formulated on the basis of a careful review of the clinical literature summarized earlier. The study developed as part of a pilot primary and secondary prevention project targeted at sensitizing caregivers to their children’s subjective experience, thereby facilitating awareness of their own critical role in the children’s processing of trauma (E. Cohen, 2006, 2008).
HYPOTHESES

The first group of hypotheses concerns anticipated differences in play patterns between the play activity of young children directly exposed to events of terror and the play activity of a comparison group of children not directly exposed to terror events. Data consist of ratings of videotaped play sessions.

H1: Traumatized children will differ from a comparison group of children by engaging in less play activity overall. The relative diminution in play activity among traumatized children will be greatest in the category of fantasy play. In addition, the traumatized children will exhibit more play inhibition and more frequent interruptions of play activity.

H2: Traumatic play activity will be observed more frequently among children who have been directly exposed to terror events as compared to children who have not been directly exposed to terror events.

H3: The play activity of children directly exposed to terror events will be characterized by (a) a greater prevalence of negative affects, (b) more trauma-related affects, and (c) more acting-out; and morbid themes in their play activity.

H4: The group of children directly exposed to terror events will demonstrate a reduced overall developmental level as well as a diminution in the social level of their play activity.

The second group of hypotheses concerns associations anticipated within the group of children directly exposed to terror between ratings of play activity and caregiver reports as to both the extent of traumatic exposure and posttraumatic symptoms developed by their children.

H5: The severity of traumatic exposure to terror events and its aftermath (injury and loss), as reported by caregivers, will be associated with more severe characteristics of PTP; more severe exposure will be associated with more frequent observations of negative affects, expressions of trauma-related affects and acting-out/morbid themes, a reduced overall developmental level, and a diminution in the social level of their play activity.

H6: Children exhibiting more adaptive coping and defensive strategies in PTP related to self-regulation and self-soothing are less likely to develop PTSD symptoms (as reported by caregivers) despite severe exposure to trauma, thus showing resilience. Specifically, the ability to develop a meaningful narrative leading to closure and a soothing end is expected to show a reduced risk for PTSD whereas repetitive reenactments not leading to resolution or resulting in chaos or an inability to play will be associated with PTSD. Additionally, a reduced risk for PTSD is expected to be associated with a better awareness of the child of him- or herself as playing. This capacity reflects both the child’s awareness of him- or herself and awareness of being in a state of play. When children lack awareness of themselves as players, they also lack a capacity to be aware of the special, unique attributes of playing. The play activity is then experienced as immediate and real rather than as pretense. As a consequence, play activity is placed within constraints; it lacks the flexibility and modulation characteristic of more adaptive play. With awareness of the boundary of make-believe, the child’s imagination expands to include diverse perspectives and infinite possibilities, facilitating repair from trauma.

H7: A combination of PTP attributes, detailed in the previous hypotheses, will better account for the level of PTSD symptomatology when used simultaneously.
METHOD

Participants

Two groups of children were identified and recruited for this study: a trauma-exposed group and a comparison group. The trauma-exposed group was comprised of 29 Israeli children (20 boys, 9 girls) between 3.5 to 7.5 years of age ($M = 5.47, SD = 1.34$), who had been directly exposed to a terror event. The majority of these children lived in outlying areas exposed to high levels of terrorism during the second Intifada (the Palestinian uprising) that erupted in September 2000. Each of these children was involved directly in only one major terror event, although all of them additionally were indirectly exposed to reports of terror incidents in their communities.

Direct exposure was defined as having firsthand experience with a terror attack on themselves and/or an attachment figure. The events included suicide bombings or activated explosives in a public setting (e.g., restaurants and buses) and terrorists’ random shootings at moving cars or breaking into homes and a residential school while shooting indiscriminately. Six of the children experienced loss of parents or siblings due to terrorism: Two children lost both of their parents and a sibling, 2 children lost their mother, 1 child lost his father, and 1 child lost his sister. Four children and seven parents were injured during the terror incidents. The median elapsed time at contact was 15 months (range = 6–18 months) after the traumatic event. None of the children had received individual psychotherapy, although several had been followed by school psychologists.

The comparison group consisted of 25 children (13 boys, 12 girls) between 4 to 7 years of age ($M = 5.62, SD = 0.87$). None had experienced direct exposure to a terror event. All these children resided in two small, isolated communities the furthest away possible from the threats of terror and unexpected intrusion.

Because this research qualifies as an “experiment in nature,” many variables were beyond our control. Recruiting an adequate number of preschool children who met the exposure criteria proved difficult, especially since travel to conduct the observations in certain locales was highly dangerous. We opted instead to extend the originally planned age criteria to include kindergarten children and a few first graders. Finding a clearly unexposed group within the confines of a small country also was challenging. A $t$ test showed no significant differences between the children’s age in the two groups.

Care was taken to match both groups of children in terms of age and the socioeconomic and educational levels of their caregivers. The demographics of both groups of caregivers are presented in Table 1. As can be seen in the table, comparison tests showed no differences in the educational level and income of parents from both groups. The majority of the parents had an academic education and above-average income. No divorce was reported in either group. However, a larger percentage of the exposed group reported being religious and having more children. The difference in family size between the groups may, in fact, be inflated due to the unique characteristics of the exposed group. Three of the children in our study were being raised together in a family of 14 children, including 7 of its own and 7 foster children, whose parents were both killed by terrorists.

Procedures

Recruitment of participants and ethical procedures. The research proposal was approved according to the ethics procedures of the Hebrew University of Jerusalem. Families of the exposed
TABLE 1. Demographic Characteristics of the Families of the Trauma-Exposed and Comparison Groups of Children

<table>
<thead>
<tr>
<th></th>
<th>Trauma Group (n = 29)</th>
<th>Comparison Group (n = 25)</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education (mother)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;12 years</td>
<td>2 (6.9%)</td>
<td>–</td>
<td>(\chi^2(2) = 4.53, \text{n.s.})</td>
</tr>
<tr>
<td>High school</td>
<td>9 (31%)</td>
<td>4 (16%)</td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>16 (62.1%)</td>
<td>21 (84%)</td>
<td></td>
</tr>
<tr>
<td><strong>Education (father)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;12 years</td>
<td>–</td>
<td>1 (4%)</td>
<td>(\chi^2(2) = 1.74, \text{n.s.})</td>
</tr>
<tr>
<td>High school</td>
<td>10 (34.5%)</td>
<td>6 (24%)</td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>19 (65.5%)</td>
<td>18 (72%)</td>
<td></td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above average</td>
<td>15 (51.8%)</td>
<td>19 (76%)</td>
<td>(\chi^2(2) = 3.66, \text{n.s.})</td>
</tr>
<tr>
<td>Average</td>
<td>10 (34.5%)</td>
<td>5 (20%)</td>
<td></td>
</tr>
<tr>
<td>Below average</td>
<td>4 (13.7%)</td>
<td>1 (4%)</td>
<td></td>
</tr>
<tr>
<td><strong>Religiosity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secular</td>
<td>7 (24.1%)</td>
<td>22 (88%)</td>
<td>(\chi^2(1) = 23.72, p &lt; .001)</td>
</tr>
<tr>
<td>Religious</td>
<td>22 (75.9%)</td>
<td>3 (12%)</td>
<td></td>
</tr>
<tr>
<td><strong>No. of children</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>1–14</td>
<td>2–5</td>
<td>(t(52) = 2.37, p &lt; .05)</td>
</tr>
<tr>
<td>Mdn</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>4.96 (3.70)</td>
<td>3.16 (0.99)</td>
<td></td>
</tr>
</tbody>
</table>

Parents were recruited by school psychologists in areas with high incidence of terror events. The purpose and procedure of the study were explained and issues of privacy clarified. Written consent was then obtained for all contacted participants. The participating caregivers were offered a copy of the videotape of the play session with their child as well as a free consultation regarding the observation of their child’s play activity following the data analysis. A school liaison was offered upon request. For those families who might be identified as needing therapeutic services, a shortened referral process was procured to a treatment unit at a regional hospital.

Families of the comparison group were identified through personal and professional contacts in the southern part of the country, where no terror events had occurred. The procedures for initiating contact with these families and for data collection were similar to those of the exposed group. Prior to inclusion in the study, it was ascertained that none of the comparison families had been exposed to a terror event or to any other major traumatic incident.

**Play sessions and data collection.** Because of the extreme stress due to the threat of violence, parents were frightened to travel with their children. Therefore, the researchers traveled to meet the children, often in specially protected vehicles. The play sessions were conducted in a separate room adjacent to the child’s preschool or school classroom. Teacher cooperation was procured by the caregivers and the local school psychologist. Each cooperating classroom received a gift certificate for the purchase of books. The three Israeli members of the research team paired up to conduct the 45-min sessions. The pair brought along a video camera (placed unobtrusively in a corner of the room) and a set of play equipment. Materials and toys were selected that were appropriate for engaging children of this age in fantasy and expressive play. The assortment included family dolls, fantasy figures, furniture and kitchen utensils, a variety of vehicles, animals, soldier figures, a doctor’s kit, building blocks, Lego blocks, a Slinky, some musical instruments, and creative art materials. The purpose of the session was explained to the child as an attempt to find out how children play. The adult player conducted the session in a
nondirective manner, showing interest, reflecting feelings or the content of the play, and gently facilitating play when necessary. The second researcher videotaped the session.

In addition, questionnaires were distributed to caregivers by the local school psychologist and returned by mail. All participating caregivers returned completed questionnaires.

**Measures**

Two sets of measures were used: Ratings of the videotaped play sessions and questionnaires completed by the children’s caregivers.

**Measures based on ratings of play sessions.** The Children’s Play Therapy Instrument–Adaptation for Terror Research (CPTI-ATR; Chazan & Cohen, 2003) was used to measure play activity of children in both groups. This instrument is based upon the Children’s Play Therapy Instrument (CPTI; Kernberg, Chazan, & Normandin, 1997, 1998; for further definition of play activity categories, see Chazan, 2000, 2002a, 2002b). The instrument consists of several parts:

*Ratings of the whole session:* Each videotaped play session was chunked into four categories: Preplay, Play Activity, Nonplay, and Play Interruption. The length of all Play Activity segments within a session, relative to the overall length of the session, was measured, and the number of Play Interruptions which occurred during the session was recorded. The longest Play Activity segment within the session was used for further analyses.

*Analysis of the chosen Play Segment:* The longest Play Activity segment is rated on eight distinct scales and five combined sets of scales. These five indices were created to simplify data analysis and to reduce the number of comparisons. Table 2 summarizes all the scales, including their interrater reliabilities and internal consistency.

The first two distinct scales, Fantasy Play Activity and Traumatic Play Activity, are dichotomous scales (Observed/Not Observed). Of special note is the rewriting of the definition for traumatic play intended to include observations made by other researchers and to extend the boundaries of the category to subsume all possible permutations of play activity that could be understood as being an expression of traumatic experience. Due to its central role in this research, the definition of Traumatic Play is cited in full:

The child persists in playing out a specific theme in a repetitive manner. The affect has a component of pressure, anxiety, outright despair, or sadness. Aggressive, sadistic, masochistic, and sarcastic themes may occur and/or themes of rescue, reparation, and protective planning. In many instances, the play activity does not move toward resolution. The play activity may involve the insertion of a disorganized, incongruous, or bizarre activity and disturbing themes or morbid content, either in fantasy or in actual behavior. At other times, no significant themes appear, but the play activity appears constricted, mechanistic, and inhibited to an extreme extent.

The five created indices included:

1. An index of Affective Components consisting of five ratings (all 5-point scales ranging from 1 (low) to 5 (high)): child’s overall affective tone, spectrum of affects, appropriateness of affective tone to content, and child’s affective tone toward therapist.
### TABLE 2. Children’s Play Therapy Instrument–Adaptation for Terror Research Scales: Reliability and Internal Consistency

<table>
<thead>
<tr>
<th></th>
<th>ICC Score</th>
<th>$\kappa$</th>
<th>$\alpha$</th>
<th>ICC Score</th>
<th>$\kappa$</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fantasy play</td>
<td>1.00</td>
<td></td>
<td></td>
<td>Play Themes</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>Traumatic play</td>
<td>1.00</td>
<td></td>
<td></td>
<td>Acting-out/morbid themes*</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>Play Attributes</td>
<td></td>
<td></td>
<td></td>
<td>Protection themes*</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>Play inhibition</td>
<td>0.82</td>
<td></td>
<td></td>
<td>Level of Play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective components*</td>
<td>0.79</td>
<td>0.74</td>
<td></td>
<td>Developmental level</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>Overall affective tone</td>
<td></td>
<td></td>
<td></td>
<td>Social Interaction*</td>
<td>0.77</td>
<td>0.82</td>
</tr>
<tr>
<td>Spectrum of affects</td>
<td></td>
<td></td>
<td></td>
<td>Cooperative interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriateness of affect</td>
<td></td>
<td></td>
<td></td>
<td>Isolated Play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective tone toward therapist</td>
<td>0.79</td>
<td>0.62</td>
<td></td>
<td>Patterns of Coping/Defensive Strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma-related Affects*</td>
<td>0.79</td>
<td>0.62</td>
<td></td>
<td>Reenactment with soothing</td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>Anger and aggression</td>
<td></td>
<td></td>
<td></td>
<td>Reenactment without soothing</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>Fear and anxiety</td>
<td></td>
<td></td>
<td></td>
<td>Overwhelming reexperiencing</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>Sadness and wariness</td>
<td></td>
<td></td>
<td></td>
<td>Awareness as playing</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

Note. ICC (Interclass coefficients) were computed for the 5-point scales; $\kappa$ coefficients were computed for dichotomous scales; Cronbach $\alpha$ was computed for internal consistency of created indices.

*Combined indices.

2. A list of Feelings Expressed (each rated on a 5-point scale ranging from 1 (low) to 5 (high)) was condensed into an index of Trauma Related Affects that included three groups of feelings: fear and anxiety, anger and aggression, and sadness and wariness. Identified play themes were grouped into two categories:

3. Protection Themes including rescue, grooming, bodily functioning, giving care, giving assistance, feeding, self-care, physical care of others, reviving, and protecting.

4. Acting-Out/Morbid Themes including bodily harm, breaking rules, death, destruction, falling, messing, revenge, abuse, and sadism.

The ratio of both protection themes and acting-out/morbid themes to all other themes observed in the child’s play activity (which seemed irrelevant to these distinct themes) was computed for each child separately and used for further analyses. This was intended to reflect both use of these themes and their relative preponderance in the child’s play.

5. An index of Social Interaction was created by combining the scores on the scales Cooperative Interaction and Isolated Play (both rated on a 5-point scale ranging from 1 (low) to 5 (high)) since the correlation between these individual scales was very high ($r = -.82$).

The additional six distinct scales included were all 5-point scales (ranging from 1 (low) to 5 (high): Play Inhibition; Overall Developmental Level of the play activity, Awareness of the Child of Self as a Player, and three subscales measuring Patterns of Coping/Defensive Strategies Observed in Traumatic Play Activity). This last set of subscales was used only when traumatic play was observed. They were rewritten for the CPTI-ATR to reflect the predominant function of play activity in expressing the balance between comfort/terror experienced by the child while engaged in traumatic play. The patterns are not mutually exclusive, providing the rater with a
flexible measure to capture each child’s unique coping style and strategies. Definitions of the three patterns are:

**Pattern 1: Reenactment With Soothing.** The traumatic play includes the reenactment in play activity of aspects of the event and/or repetition in the play activity of the themes of the event. Play activity is characterized by freedom of expression of affect and achievement of a satisfactory ending. It may provide some relief for the child, perhaps related to the perceived control over outcome (as reflected in play narrative), the degree a satisfactory outcome is achieved, the degree to which there is freedom to express the prohibited affect (revenge), and/or the degree to which a cognitive reworking is facilitated.

**Pattern 2: Reenactment Without Soothing.** The traumatic play includes the repeated reenactments in play activity of aspects of the event and/or the repeated repetitions in the play activity of the themes of the event. A reworking of the event does not occur within the play activity. Play activity is characterized by expression of disturbing (i.e., frightening, aggressive) affects or constriction of affect. The play activity fails to provide relief to the child from terror and fear and does not end in satiation. (Note that this play pattern includes both responses of aggression and withdrawal.)

**Pattern 3: Overwhelming Reexperiencing.** The traumatic play is characterized by mental states that lack a coherent structure and tend to overwhelm the child. Often, the child seems too overwhelmed by the powerful emotions to be able to produce a narrative, and appears frozen, disconnected, or tense and hypervigilant. If there is a play narrative, it is about catastrophic events that overcome the child and are enacted, characteristically involving loss of a sense of boundaries, embodying the overwhelming force, or becoming the embodiment of submission. The play activity does not resolve or diminish the child’s extreme emotional state; rather, it tends to prolong or intensify it. The play activity frequently ends with disruption or interruption. (Note that this play pattern includes both responses of aggression and withdrawal.)

**Measures based on caregiver reports.** Three measures were completed by the main caregiver (usually the mother). In the case of orphaned children, either the surviving parent or the foster mother completed the forms. The *Semistructured Interview and Observational Record for Infants and Young Children* (Scheeringa & Zeanah, 1994; Scheeringa, Zeanah, Myers, & Putnam, 2003) is a caregiver interview-based questionnaire for assessing PTSD in young children, based on *DSM-IV* (APA, 1994) criteria and adapted for young children. It includes 29 items, rated on 3-point scales (no/sometimes/yes), which are divided into five subscales: Exposure to a Traumatic Event; Reexperiencing the Event; Avoidance and Numbing of Responsiveness; Increased Arousal; and New Fears and Aggression. Due to limitations in personally meeting the caregivers, the caregivers completed the questionnaires on their own, and their responses were then confirmed via a telephone interview, using the authors’ scoring instructions (Scheeringa & Zeanah, 2002). In data analysis, we used both a PTSD diagnosis (yes/no) based on the new algorithm suggested by the authors and the sum of all reported symptoms, considering the advantages of continuous rather than categorical data (Stafford, Zeanah, & Scheeringa, 2003).

The previous scale was preceded by a questionnaire measuring the *Child’s Traumatic Exposure*. The questionnaire was constructed by the first authors since no published instrument was found specifically addressing young children and relevant terror incidents. The items were based on developmental and clinical considerations of risk (Pine et al., 2005). The caregiver was requested to list the date(s) of the terror event(s) to which family members had been exposed directly and to describe the event(s). The caregiver then marked on a checklist the presence or absence, in the most recent major terror event, of the following exposure characteristics: the child’s actual witnessing of a terror incident involving a threat to life, experiencing direct violence, and the child’s separations from attachment figures during or following the event. A summary score of these four event characteristics was computed to reflect the severity of the traumatic event. Additionally, the child’s loss of a member of the nuclear family, being exposed

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to parental injury as a result of a terror incident, and being injured or disabled him- or herself were each recorded separately. Additional stressful events unrelated to terrorism also were recorded (e.g., special family problems and health issues).

The third measure was *Familial Background:* Caregivers were asked to provide information regarding family income, parental education and occupation, family size, and degree of religiosity.

**Data Analyses**

Interrater reliability data were obtained using intraclass coefficients (ICC) and \( \kappa \) statistics. Internal consistency of the Play Activity scale was computed using Cronbach \( \alpha \). Specific comparisons of rated play measures as well as of reported PTSD symptoms and diagnosis were conducted between the trauma group and the comparison group using \( t \) tests and \( \chi^2 \). Correlational analyses, using Pearson coefficients, were conducted to establish the relationships between play activity ratings and both the level of exposure to terror events and the caregivers’ reports of the child’s posttraumatic symptoms. Finally, the contribution of play activity variables to predicting PTSD symptoms was computed using linear regression analysis.

**RESULTS**

**Interrater Reliability of the CPTI-ATR**

The first author was trained to use the CPTI by the second author, who also is a coauthor of the scale. The first author then trained two graduate students in child–clinical psychology (the last authors). Following implementation of changes in the scales to fit the focus of the study and to reduce the number of scales, 12 tapes were rated, each by at least two of the four researchers. Interrater reliability was computed following training computed on these 12 tapes. As can be seen in the reliability results, presented in Table 2, the \( \kappa \) values for the nominal scales are all above 0.76 and therefore may be considered excellent according to the criteria provided by Landis and Koch (1977); the ICC scores for the 5-point scales are all above 0.77, indicating at least good reliability according to Portney and Watkins (2000). Final ratings used for the analyses were the averages across raters.

Following the conclusion of all ratings, an additional reliability check was performed using ratings by two clinical psychologists who were not involved in the study. Following training, 10 sets of ratings were compared with the ratings of the research team on all variables and proved to be highly significant (Cronbach \( \alpha \)s = .68–.99 on the 5-point scales and 80% agreement on the dichotomous scales).

**Internal Consistency of the CPTI-ATR**

Internal consistency of all scales was computed after reversing relevant variables, so that high scores reflect higher levels of traumatic play. The overall internal reliability for all participants \((n = 54)\) was good \((\alpha = 0.69)\).

Pearson correlations among the three patterns of coping/defense strategies revealed, as expected, a significant negative correlation between Pattern 1 (Reenactment With Soothing) and Pattern 3 (Overwhelming Reexperiencing), \( r = -0.51 \) \((p < .01)\). However, the expected negative correlation between Patterns 1 and 2 \((r = -0.34)\) and the positive correlation between
Patterns 2 and 3 ($r = .21$) did not reach statistical significance. Additionally, children using more Pattern 1 strategies showed less negative affect, a higher developmental level, and more positive social interaction. The reverse was found for children using more of Pattern 3. The children using more of Pattern 2 characteristically used less fantasy play and more acting-out/morbid themes.

**Discriminating Characteristics of PTP**

**Preliminary analyses.** Prior to testing our hypothesis, the possible contribution of background and demographic variables to the studied variables was examined through a few preliminary analyses. A multivariate analysis was conducted to assess the contribution of age and gender of the child to the main study variables: PTSD (total symptoms) and all CPTI-ATR measures. No significant differences were found according to these variables or their interaction. Additionally, associations between the duration of elapsed time since the traumatic event and both PTSD measures and play variables were checked. Only one significant correlation was obtained between the Social Interaction Play Activity subscale and elapsed time ($r = .49$, $p < .01$). Analysis also showed that children in both groups had been exposed to a similar level of previous stressful life events, unrelated to terrorism, such as family crisis, car accidents, and hospitalization (31% in the exposed group, 28% in the exposed group, $\chi^2(2) = 0.10$, n.s.).

The average length of rated play segment used for ratings in each group also was compared. Given the small group sizes and these findings, further analyses were carried out only according to the original group assignment, except for analyses related to social interaction that were controlled for time elapsed since the traumatic incident.

**Between-Group Differences in Play Activity**

To test our first four hypotheses with regard to the distinctive characteristics of PTP, a number of comparisons between the characteristics of the play activity of the children in the two groups were carried out. The total time spent in play activity within a session in the exposed and comparison groups was compared. Contrary to our hypothesis, no significant differences were found between the groups. The children engaged in play activity, on average, during 86% of the session. Five children from the exposed group interrupted their play (leaving the room for a short while) compared to none in the comparison group, $\chi^2 = 4.60$, $p < .05$.

The two groups were compared next on ratings of the selected play segment. Means, SDs, and $t$-test comparisons of 10 continuous scales of the CPTI-ATR are presented in Table 3 together with J. Cohen’s (1992) $d$ effect size measure. As can be seen in Table 3, significant differences between the groups were obtained on seven of the scales. Children from the exposed group showed more negative affects, exhibited more trauma-related affects, engaged in a higher percentage of acting/out morbid themes, and were less aware of themselves as playing. The few children exhibiting traumatic play in the comparison group also used more Pattern 1 coping/defensive strategies and less Patterns 2 and 3 in comparison with the exposed group.

Group differences on the two dichotomous scales Fantasy Play and Traumatic Play also were examined using Fisher’s exact test. The frequency of fantasy play was similar and high in both groups (90 and 92%, respectively). The frequency of traumatic play, however, was significantly higher in the trauma-exposed group. All children in this group engaged in traumatic play activity compared to only 4 of the children (16%) in the comparison group. This difference, using Fisher’s exact test, is highly significant.
TABLE 3. Differences Between Measures of the CPT-ATR in the Exposed Groups (n = 29) and the Comparison Group and Their Effect Sizes (n = 25)

<table>
<thead>
<tr>
<th>Play Measures</th>
<th>Exposed Group</th>
<th>Comparison Group</th>
<th>t</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Play inhibition</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective components</td>
<td>3.07</td>
<td>3.62</td>
<td>-3.86**</td>
<td>1.07</td>
</tr>
<tr>
<td>Trauma-related affect</td>
<td>3.04</td>
<td>1.89</td>
<td>7.73***</td>
<td>2.14</td>
</tr>
<tr>
<td>Acting out themes: Percentage</td>
<td>38.67</td>
<td>21.07</td>
<td>2.59*</td>
<td>0.72</td>
</tr>
<tr>
<td>Protection themes: Percentage</td>
<td>40.73</td>
<td>41.71</td>
<td>-0.14</td>
<td></td>
</tr>
<tr>
<td>Social interaction</td>
<td>3.90</td>
<td>4.15</td>
<td>-2.13*</td>
<td>0.59</td>
</tr>
<tr>
<td><strong>Awareness as playing</strong></td>
<td>2.60</td>
<td>0.46</td>
<td>7.80***</td>
<td>2.16</td>
</tr>
<tr>
<td>Reenactment without soothing</td>
<td>3.27</td>
<td>0.42</td>
<td>10.57***</td>
<td>2.93</td>
</tr>
<tr>
<td>Overwhelming reexperiencing</td>
<td>2.21</td>
<td>0.36</td>
<td>7.15***</td>
<td>1.98</td>
</tr>
</tbody>
</table>

a Reversed scales: Higher values correspond to more maladaptive patterns.
b Awareness as playing = Child’s awareness of him- or herself as playing.
*p < .05, two-tailed, **p < .01, two-tailed, ***p < .001, two-tailed.

**Exposure to Trauma and PTP**

To test our fifth hypothesis with regard to PTP and trauma exposure, Pearson correlations were computed among play activity ratings of the exposed group, the measures of severity of the traumatic event, and specific major events related to loss of significant others and injury experienced by children or their parents in the exposed group. These data are presented in Table 4.

Several significant correlations emerged between exposure variables and play activity measures:

- Exposure to a terror event involving more severe traumatic characteristics was associated with more predominant negative affect exhibited by the child while playing.
- Loss of a member of the nuclear family was associated with less fantasy play, more play inhibition, and more negative affects’ evidence in the child.
- Injury of the child or of the parent was significantly correlated with more negative affect, a lower awareness of the child of him- or herself as a player, and reduced social interaction.
- Parental injury was additionally correlated with play activity of a lower developmental level, a higher frequency of acting-out/morbid themes, more overwhelming reexperiencing, and lower reenactment with soothing.

**PTSD and PTP**

Significant between-group differences in PTSD diagnosis and symptoms, using the Scheeringa et al. (2003) criteria, were reported in an earlier part of the project (E. Cohen, 2006; Cohen & Gadassi, 2009). In the exposed group, 9 of 29 children met the criteria for PTSD compared
 TABLE 4. Pearson Correlations of the CPT/-ATR With the Child’s Level of Exposure (n = 29)

<table>
<thead>
<tr>
<th>Play Measures</th>
<th>Severity of Event Exposure</th>
<th>Loss of Injury of Family</th>
<th>Injury of Injury of Child</th>
<th>Injury of Injury of Parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fantasy play(^a)</td>
<td>−.05</td>
<td>.39(^{**})</td>
<td>0.19</td>
<td>0.07</td>
</tr>
<tr>
<td>Play inhibition</td>
<td>0.02</td>
<td>.54(^{***})</td>
<td>0.24</td>
<td>0.21</td>
</tr>
<tr>
<td>Affective components(^a)</td>
<td>.36(^{*})</td>
<td>.41(^{**})</td>
<td>0.32(^{*})</td>
<td>0.35(^{*})</td>
</tr>
<tr>
<td>Trauma-related affect</td>
<td>0.14</td>
<td>0.01</td>
<td>.00</td>
<td>0.17</td>
</tr>
<tr>
<td>Acting-out/morbid themes</td>
<td>0.03</td>
<td>−.10</td>
<td>0.02</td>
<td>.31(^{*})</td>
</tr>
<tr>
<td>Protection themes(^a)</td>
<td>0.27</td>
<td>0.29</td>
<td>0.26</td>
<td>0.22</td>
</tr>
<tr>
<td>Developmental level(^a)</td>
<td>0.04</td>
<td>0.2</td>
<td>0.15</td>
<td>.42(^{**})</td>
</tr>
<tr>
<td>Social interaction(^a,b)</td>
<td>0.12</td>
<td>0.05</td>
<td>.44(^{*})</td>
<td>.40(^{*})</td>
</tr>
<tr>
<td>Awareness as playing(^a,c)</td>
<td>0.03</td>
<td>−.15</td>
<td>.35(^{*})</td>
<td>.41(^{**})</td>
</tr>
<tr>
<td>Reenactment with soothing(^a)</td>
<td>0.03</td>
<td>.24</td>
<td>−.17</td>
<td>−.49(^{***})</td>
</tr>
<tr>
<td>Reenactment without soothing</td>
<td>−.03</td>
<td>−.31</td>
<td>−.06</td>
<td>0.20</td>
</tr>
<tr>
<td>Overwhelming reexperiencing</td>
<td>0.02</td>
<td>0.21</td>
<td>0.20</td>
<td>.33(^{*})</td>
</tr>
</tbody>
</table>

Note. Traumatic play not included because it was exhibited by all children in the group.
\(^a\)Reversed variables/scales.

\(^b\)Controlled for elapsed time.

\(^c\)Awareness as playing = Child’s awareness of himself as playing.

\(\text{*} p < .05, \text{one-tailed}, \text{**} p < .05, \text{two-tailed}, \text{***} p < .01, \text{two-tailed.}\)

with no children in the comparison group, \(\chi^2 = 9.3, p < .01\). In addition, the exposed group manifested a higher number of PTSD symptoms \((M = 7.21, SD = 4.62)\) when compared to the comparison group \((M = 0.92, SD = 1.12)\). This difference was statistically significant, \(t = 6.64, p < .001\).

Consequently, to test our fifth hypothesis with regard to the association between PTP and PTSD, play activity correlates of the number of posttraumatic symptoms were examined for both groups together as well as separately for the exposed and comparison groups. Play activity correlates of a PTSD diagnosis were computed for the exposed group since only children in this group met criteria for the diagnosis. As can be seen in Table 5, 9 of the 11 subscales showed significant correlations with the sum of PTSD symptoms in both groups combined, including: traumatic play activity, affective components, trauma-related affects, developmental level, and the child’s awareness of him- or herself as a player and the three patterns of coping/defensive strategies. Children showing a higher frequency of PTSD symptoms also showed a higher rate of traumatic play, more negative and trauma-related affects, a lower developmental level of play, and a lower level of awareness of themselves as playing. For those in both groups exhibiting traumatic play, PTSD symptoms also were associated with less reenactment with soothing and more reenactment without soothing and overwhelming reexperiencing.

Looking at each group separately reduces the variance of each of the measures, thus limiting the correlational findings. Nevertheless, within the group of children exposed to a terror event, the sum of posttraumatic symptoms correlated positively with the coping/defensive strategies pattern of overwhelming reexperiencing and with the trauma-related affects. Next, a series of \(t\) tests was conducted to check the differences in play measures between the exposed children who had received a PTSD diagnosis and those who did not within the same group. The only significant difference was in the coping/defensive pattern reenactment with soothing. Children
TABLE 5. Pearson Correlations of the CPI-ATR With PTSD Symptoms for the Exposed Groups (n = 29) and the Comparison Group (n = 25) Separately and Together

<table>
<thead>
<tr>
<th>Sum of PTSD Symptoms</th>
<th>Exposed Group</th>
<th>Comparison Group</th>
<th>Both Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fantasy play*</td>
<td>0.13</td>
<td>0.16</td>
<td>0.12</td>
</tr>
<tr>
<td>Traumatic play*</td>
<td>−</td>
<td>−.27</td>
<td>−.27</td>
</tr>
<tr>
<td>Play inhibition</td>
<td>0.17</td>
<td>−.24</td>
<td>0.06</td>
</tr>
<tr>
<td>Affective components*</td>
<td>.31*</td>
<td>−.08</td>
<td>.45**</td>
</tr>
<tr>
<td>Trauma related affect</td>
<td>0.29</td>
<td>−.34*</td>
<td>.54***</td>
</tr>
<tr>
<td>Acting-out/morbid themes</td>
<td>0.15</td>
<td>−.15</td>
<td>.29**</td>
</tr>
<tr>
<td>Protection themes*</td>
<td>0.17</td>
<td>−.01</td>
<td>0.2</td>
</tr>
<tr>
<td>Developmental level*</td>
<td>0.25</td>
<td>0.14</td>
<td>.32**</td>
</tr>
<tr>
<td>Social interaction*</td>
<td>0.3</td>
<td>−.10</td>
<td>0.15</td>
</tr>
<tr>
<td>Awareness as playing*</td>
<td>0.3</td>
<td>−.07</td>
<td>.34**</td>
</tr>
<tr>
<td>Re-enactment with soothing*</td>
<td>0.26</td>
<td>0.21</td>
<td>−.40***</td>
</tr>
<tr>
<td>Reenactment without soothing</td>
<td>0.04</td>
<td>−.24</td>
<td>.55***</td>
</tr>
<tr>
<td>Overwhelming reexperiencing</td>
<td>.35*</td>
<td>−.26</td>
<td>.60***</td>
</tr>
</tbody>
</table>

*Reversed variables/scales.
*Correlations with traumatic play were not calculated for the exposed group because all children exhibited traumatic play.
*p < .05, one-tailed, **p < .05, two-tailed, ***p < .01, two-tailed.

who were diagnosed with PTSD had a lower level of reenactment with soothing (M = 2.22, SD = 1.08) compared with the children who were not diagnosed with PTSD (M = 2.78, SD = 0.79). This difference was statistically significant, t = 1.75, p < .05, d = 0.67.

To test our last hypothesis with regard to the predictability of PTSD symptoms, based on characteristics of PTP, a simultaneous linear regression analysis was performed. Predicting the sum of PTSD symptoms was attempted by simultaneously entering the play activity variables found to be significantly correlated with this dependent variable (see Table 5). Due to high collinearity, an index was created reflecting the sum of the following four scale measures: affective components, trauma-related affects, developmental level, and the child’s awareness of him- or herself as a player. The prediction of the sum of PTSD symptoms by this index and by the additional measures of traumatic play, acting-out/morbid themes, and the three patterns of coping/defensive strategies proved highly significant, R² = .68, F(6, 47) = 6.82, p < .001, with only the index contributing significantly, p < .02.

DISCUSSION

The play observations presented in this article relate to the psychological effects of terrorism on young Israeli children during the Intifida. However, we recognize that similar and even worse ill effects have been experienced by Palestinian children and families (Thabet et al., 2006) as well as by children in other parts of the world exposed to political violence (Macy, Barry, & Noam, 2003). The moment was seized to use scientific means to study the impact of these extreme violent events upon the lives of young children by examining the phenomenon of PTP. Indeed,
the results of this study serve to underscore the importance of PTP, both as an adaptive attempt on the part of the child, using one’s own capacities to deal with traumatic events, and also as a sign of maladaptation, signaling the need for help.

**Measuring PTP With the CPTI-ATR**

The good to excellent interrater reliability findings in scoring the videotapes of children’s play activity augment previous findings with the CPTI (Kernberg, Chazan, & Normandin, 1998) and show that following training play activity can be reliably assessed using the CPTI-ATR. The internal consistency of the CPTI-ATR was found to be good, suggesting both associations between the scales as well as unique aspects captured by the various scales. Given the limitations in the ability of young children to report on their inner experiences, the validation provided in this study as to the usefulness of play observations adds a significant contribution to early identification and prevention of PTSD in this high-risk age group.

**Normal Play Compared to PTP**

The first four hypotheses of this study attempted to define the distinctive characteristics of PTP compared to “normal” play, assuming on the basis of clinical reports that traumatized children will differ from a comparison group of children by engaging in less play activity overall, especially in less fantasy play, and showing more play inhibition. Additionally, they were expected to show more traumatic play activity and more negative affect and to express more trauma-related affects and acting-out and morbid themes in their play activity. These hypotheses were partially confirmed by our data, which show that play activity patterns of children exposed to terror are indeed significantly different from those of unexposed children, although these differences do not correspond to all the characteristics of PTP reported in the clinical literature.

As hypothesized, the traumatized children compared to their nonexposed peers exhibited more traumatic play activity, more play interruptions, more negative and trauma-related affects, and a higher frequency of acting-out/morbid themes. In addition, coping/defensive strategies were significantly more adaptive in the small number of nonexposed children who did display traumatic play activity. The differences obtained between the groups on these variables show a medium to very large effect size, according to the criteria offered by J. Cohen (1992). These distinct play activity characteristics are in line with previous clinical reports of PTP (Alessandri, 1991; Nader & Pynoos, 1991; Terr, 1983, 1990; Varkas, 1998).

However, our hypotheses that the terror-exposed children will engage less in play, especially less in fantasy play, and will show more play inhibition were not confirmed. Additionally, they did not differ from the comparison group in using protection themes, in the developmental level of their play, or in their social interaction with an adult while playing. These common bonds of childhood were sustained by most children, even when challenged by the intrusion of terror. The minority of children whose play activity was more pervasively inhibited, regressive, and limited in social interaction could be identified within the exposed group of children, characterizing those who had experienced parental injury or loss of a loved one in the aftermath of terror exposure.

The difference in characteristics of PTP in our study in comparison to the available literature may be explained by the nature of the studied traumatic event and the population. Terrorism
is a nonpersonal public trauma, in comparison to child maltreatment—the kind of trauma on which most descriptions of PTP in the literature are based. Exposure to terrorism, within the context of a supportive home and community environment when these remain basically intact, often may allow children to preserve their attachment ties and consequently their capacity for soothing, symbolization, and integration (Pine et al., 2005). Our group of exposed children had time to recover from the immediate effects of direct exposure prior to our assessment. The studied families tended to be religious and idealistic, finding self-actualization by living in the threatened settlements. Indeed, spirituality has been shown to contribute to recovery from stressful life events (Klingman & Cohen, 2004). Moreover, the studied exposed children were not referred for psychological treatment, and only 9 of them met criteria for PTSD. Therefore, it is possible that the majority of our sample represents a more adaptive part of a continuum of the population of terror-exposed children. It also is possible that the comparison group was affected by indirect exposure to the traumatic events through media exposure and adult conversations, an exposure known to impact children’s adaptation (Pfefferbaum et al., 2003). These factors may have reduced differences on some of the measures of PTP while simultaneously maintaining the long-term traumatic effects as expressed in other characteristics of PTP.

**Exposure to Terror Events and Play Activity**

Our fifth hypothesis was confirmed, showing that PTP reflected major aspects of the severity of the traumatic exposure of the child, albeit not on all aspects examined. Most notably, despite the small numbers involved, the aftermath of terror events in terms of loss of significant others and injury suffered by the child or the caregiver was reflected in distinctly different play patterns within the exposed group; however, PTP reflected only minimally, below our expectations, the severity of the terror event. Only one significant correlation was obtained between more severe traumatic-event characteristics and more negative affective states. This may be the result of the elapsed time since the event. With time, the effect of injury and especially of loss can be assumed to be much more pertinent to recovery, overshadowing particular differences in the severity of traumatic scenes. These findings also are supported in the growing literature that has claimed that the recovery environment, and especially parental functioning, is much more significant for a child’s posttraumatic adaptation than are the characteristics of the event itself (E. Cohen, 2008). Accordingly, the injury of a parent was reflected in almost all aspects of the child’s play activity: negative affect, a lower awareness of the child of him- or herself as a player, reduced social interaction, a lower developmental level, a higher frequency of acting-out/morbid themes, more overwhelming reexperiencing, and lower reenactment with soothing. This outcome of a terror event, involving the vulnerability of the attachment figure, may represent for children at the oedipal stage both a threat to their own bodily integrity, a major rupture in the child’s symbolic “protective shield,” and an actual diminished capacity on the part of the parent to provide the child with the nurturance and soothing needed in the aftermath of the trauma.

The child’s own injury was associated with more negative affects, reduced social interaction, and reduced awareness of him- or herself as a player, possibly indicating higher self-preoccupation. These findings support earlier conclusions as to the specifically harmful effects on the child’s adaptation subsequent to terror events involving parental and child injury (Pine et al., 2005).

Loss, however, manifested itself in specific attributes of PTP. Loss of a family member was associated with play inhibition, diminution in fantasy play, and more predominant negative
affects, suggesting grief and depressive affect. This appears to correspond to the diagnostic category of Bereavement/Grief Reaction, as described in the DC: 0–3 (ZERO TO THREE, 2005). Clinically, this type of constricted play reflects young children’s difficulty in grasping the meaning of death, their limited ability to express their feelings, and their limited capacity to tolerate the pain generated by recognizing their loss (Webb, 2002). These dynamics represent a challenge in the treatment of children who have suffered the loss of an attachment figure (Lieberman, Compton, Van Horn, & Ippen, 2003).

**PTSD and play activity.** Significant associations were found between all play activity measures and the level of PTSD symptoms, as reported by the caregivers, when examining both groups together. These associations are much higher in the combined group because of the larger variance. A regression analysis further demonstrated that a combined score of the five measures—affective components, trauma-related affects, acting-out/morbid themes, child’s awareness of him- or herself as a player, and developmental level—significantly predicted the number of PTSD symptoms. This finding, based on our data, obtained from independent sources, validates the clinical usefulness of play observation for identifying children suffering from posttraumatic distress and helps focus on the most distinctive risk features of PTP.

**Coping and defensive strategies and PTSD.** The findings based on the three newly formulated strategies of coping and defense strategies expressed in traumatic play demonstrate that strategies of reenactment with soothing represent adaptive play, as described in ZERO TO THREE (2005), whereas the strategies of overwhelming reexperiencing are significantly and negatively related to them, and represent maladaptive PTP.

Reenactment without soothing was not significantly different from either of the two other play patterns; however, it does significantly identify children with aggressive acting-out/morbid themes. These children tend to use fantasy themes and manifest less inhibition in play. Reenactment without soothing appears to be a midpoint play activity, allowing for some fluidity of coping/defensive strategies and potential for modulation. Soothing appears to play a role in enabling adaptive reworking of trauma within play activity. If soothing is not experienced, as in reenactment without soothing, then the reenactment seems to have a disinhibiting effect, suggesting identification with the aggressor and aggressive fantasies as a means of defending against the reenactment of terror.

When the experience of terror is even further overwhelming (as in Play Pattern 3), the boundary with play is most endangered. Here, we see the varying degrees of regression, fragmentation, and dissolution of play activity—the real world encroaching upon the capacity to play. These dynamics of coping/defensive strategies are validated further by the findings from the correlations between the patterns and parental reports on the child’s exposure history and PTSD symptoms.

The description of coping/defensive patterns of traumatic play activity, ubiquitous in the exposed group of children, showed that the different coping and defensive strategies employed by the exposed children were associated with both PTSD symptoms and diagnosis. Remarkably, despite the small group size (n = 29) and the restricted range of symptoms, the two polar patterns—reenactment with soothing as well as overwhelming reexperiencing—did predict the level of PTSD symptoms; the less reenactment with soothing evidenced in the child’s play activity and the more overwhelmed reexperiencing, the higher the number of posttraumatic symptoms, as reported by the parents. Furthermore, the most maladaptive pattern of play activity,
overwhelming reexperiencing, was found to be sensitive enough to predict a PTSD diagnosis for 9 of 29 children exposed to terror events in this study. These findings contribute to our ability to differentiate between levels of adaptation and risk in PTP, using the perspective of coping and defensive strategies. This differentiated perspective on PTP as potentially both adaptive and maladaptive (Nader & Pynoos, 1991) differs from the literature, which tends to regard PTP as a uniform phenomenon (Findling et al., 2006).

Our findings support the clinical literature in noting the importance of observing the child’s affective state while evaluating PTP. As expected, acting-out/morbid themes also appeared to be an important characteristic of PTP. Our newly introduced contribution to the description of PTP, the measure of the child’s awareness of him- or herself as a player, warrants special consideration. The significantly lower scores in this ability found in the exposed group relative to the comparison group, and the association between this measure and the level of PTSD symptoms, suggest that this may be a potent variable for understanding the ubiquitous appearance of traumatic play in children exposed to terror events. This diminished awareness of themselves as players among exposed children may involve experiencing play activity as real rather than as pretense, constraining the flexibility and modulation of more adaptive play activity.

The evidence from this study, demonstrating the ability of young victims of terror to process traumatic events, using their own powers of imagination, narrative creation, and soothing, is an important contribution to acknowledging children’s natural resilience and the curative function of spontaneous play. A description of the various creative ways used by the children to soothe and regulate affect while processing traumatic materials in play activity is provided elsewhere (E. Cohen, 2006).

**IMPLICATIONS FOR RESEARCH AND PRACTICE**

The findings in this study have several important implications with regard to interventions with young children exposed to a terror event, and their caregivers. It appears that even a single session of play with the child can provide the trained observer with much important information about the child’s capacities for processing a traumatic event. Although the difference on any single aspect of the play of the traumatized child may not be striking, the atypical combination of manifestations of negative and trauma-related affects, acting-out/morbid themes, a lower developmental level of the play, and a reduction in the child’s abilities for awareness of him- or herself as a player and for self-soothing can be used as strong markers of posttraumatic distress. This multiple-faceted observation of play activity can serve as a port of entry for involving caregivers in reflecting upon the psychological adaptation of their children in the aftermath of traumatic events. A discussion of the child’s play activity with parents (possibly with mutual viewing of the videotape) may counteract the tendency of traumatized caregivers to avoid reminders of the violent incident and thus ignore the child’s distress (Osofsky, 1995). Caregivers may then be supported to become protective systems for their children (Pine et al., 2005). Additionally, using the ratings from the CPTI-ATR can be helpful to school personnel and therapists in identifying children at risk for PTSD. Although the CPTI-ATR is not a categorical screening tool for PTSD, it can nevertheless improve the identification of posttraumatic distress in young children, which is a problematic task even for professionals familiar with PTSD in older children. Examples of such successful interventions carried out in the course of this project are described by E. Cohen (2006).
An additional contribution of the CPTI-ATR may be its use as a guide for adapting play therapy techniques suitable for children exhibiting different coping strategies, as rated via the play patterns. The responsibility of the play therapist, working with traumatized children, to prevent the possible harmful effects of repeated negatively escalating PTP has been addressed in the recent clinical literature. Consequently, a variety of techniques for regulating arousal and for encouraging the creation of more flexible and less distressing narratives in play therapy have been described (Dripchak, 2007; Gil, 1998; Terr, 2003). The majority of traumatized children in our study were able to spontaneously use play in an effort to process what had happened, using fantasy, narrative construction, and soothing abilities, when given a safe, enabling, and facilitating setting, such as that provided in nondirective play therapy (Ryan & Needham, 2001). However, it is clear that less resilient and more severely traumatized children may need active help from their therapists in overcoming the state of overwhelming reexperiencing and in acquiring more soothing abilities to more adaptively use play activity. Our observations suggest that techniques heightening the child’s awareness of him- or herself as a player as well as the introduction of protection themes may be of therapeutic value in this endeavor.

LIMITATIONS

A few limitations of our study warrant discussion. Because the study also was conceived as an intervention, we were unable to remain completely blind to which group each of the children belonged. This may have influenced our ratings, at least in some cases, and therefore accounts for some of the obtained differences in the play activity ratings between the groups; however, a totally “blind” situation is often impossible, even under the strictest conditions of a research design; a number of the children spontaneously disclosed some information about their traumatic experience during the play session. The significant level of agreement with “blind” raters, added at the end of the rating process, suggests that potential bias had an insignificant overall effect on the ratings. This is supported by the data, showing that our rating discriminated well between the levels of adaptation of children within the trauma group (as reported by the caregivers), even though the caregiver ratings of PTSD were not available to any of the raters until after the scoring of the videotapes.

An additional limitation of the study is that although we were able to control for major socioeconomic variables in comparing the two groups, the group size did not allow us to examine the effects of religiosity and gender on the studied variables. These should be attempted in the future, along with additional child and family variables relevant to the child’s adaptive play abilities (e.g., attachment quality and parenting capacities).

This study, being the first to employ the CPTI-ATR, also needs replication to further solidify the psychometric properties of the CPTI-ATR. This may help make it more efficient in identifying children suffering from posttraumatic distress and useful in measuring progress in play therapy with traumatized children.

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