

# Assessing Effects of National Trauma on Adaptive Functioning of Mentally Healthy Adults: An Exploratory Rorschach Study

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Received September 13<sup>th</sup>, 2011; revised October 15<sup>th</sup>, 2011; accepted November 18<sup>th</sup>, 2011.

The study evaluates deviations in Rorschach indices, usually related to effects of exposure to trauma, in three samples of Israeli adult non-patients. Data collected from 41 Israeli undergraduates in 1996-1997, during a period of increased rate of terror attacks in central cities of the country (Tibon, 2007), are compared to those of two similar samples of 49 and 30 undergraduates collected in 2005-2007, before and after the Second Lebanon War respectively. During this period, the rate and severity of terror attacks were lower. The results point out the 1996-1997 sample (High Terror Exposure) as showing prominent difficulties in the capacity to minimize felt distress, in comparison to the other two samples, collected between January 2005 and January 2006 (Low Terror Exposure) and between October 2006 and January 2007 (Lebanon War Exposure) respectively. Nonetheless, the Lebanon War Exposure sample showed a tendency towards being alert and suspicious in interpersonal relationships. The data are interpreted as demonstrating the utility of the Rorschach as an assessment tool that is more responsive than previously thought to non-personality contextual factors such as national trauma.

*Keywords:* National Trauma, Terror, Mental Functioning, Distress Measures, Rorschach

## Introduction

Empirical research and clinical experience with people who were exposed to national traumatic events such as war or terror attacks have shown that both children and adults who were present at the events would most frequently develop severe stress reactions and psychopathological syndromes (Barenbaum, Ruchkin, & Schwab-Stone, 2004; Fremont, 2004; Joshi & O'Donnell, 2003; Sadeh, Hen-Gal, & Tikotzky, 2008; Shaw, 2003; Twemelow, 2004). Moreover, there is evidence that a person needs not be present to have stress symptoms. Replicated findings of studies conducted in the US following September 11, 2001, and in the UK following the terror attacks in 2005 describe substantial levels of stress in large numbers of nonpatients who do not fit into the traditional definition of exposure to trauma. These studies suggest that deliberate infliction of distress, as occurring in a collective traumatic event, is a particularly potent psychological stressor. Furthermore, an ongoing threat of terrorism has been shown to affect both the severity and duration of posttraumatic stress responses (Gidron, 2002; Rubin, Brewin, Greenberg, Simpson, & Wessely, 2005; Schuster et al., 2001; Shalev, 2000; Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002; Torabi & Seo, 2004).

Apart from posttraumatic stress responses, effects of traumatic incidents have been shown in various psychopathological syndromes commonly encountered in clinical settings, including dissociative reactions, depression, anxiety, substance abuse, and even psychotic conditions (Galea et al., 2002; Gold, 2008; Sautter et al., 1999; Shalev et al., 1998). Studies that examine the inner experience of people who were under extreme threatening situations such as persecution, arrest, deportation, and imprisonment consistently show that these people are prone to

perceive reality in a constrained, dissociative, or paranoid-like manner devoid of continuity and structure. These studies conclude that cognitive distortions, such as proneness to confuse inner and outer worlds, would be one of the inevitable consequences of persecution (Schreuder, 2001).

The systematic study of the impact of trauma on psychological functioning is relatively new and the standard assessment protocol for evaluating traumatized people has typically been restricted to a clinical interview and self-report psychometric scales. However, there has been growing empirical evidence that point out the Rorschach Inkblot Method (Rorschach, 1921) as a valid tool that might be very useful for clarifying psychological experiences in both children and adult traumatized patients (Armstrong & Loewenstein, 1990; Brand, Armstrong, & Loewenstein, 2006; Brand, Armstrong, Loewenstein, & McNary, 2009; Carlson & Armstrong, 1994; Clinton, & Jenkins-Monroe, 1994; Goldfinger, Amdur, & Liberzon, 1998; Hartman et al., 1990; Holaday, 2000; Leavitt & Labott, 1998; Lerner, 1998; Sloan, Arseault, Hilsenroth, Harvill, & Handler, 1995; Steinberg, 1996; Swanson, Blount, & Bruno, 1990; Viglione, 1990; Zeligman, Smith, & Tibon, 2011).

Unlike self-report measures, the nature of the Rorschach task does not require awareness to internal experience of the traumatized person and is not vulnerable to over reporting. The method can therefore be especially useful for unveiling dynamic processes (e.g., dissociative distancing from inner reality) that often characterize people who were exposed to trauma. Rorschach indices that have been usually explored in relation to effects of trauma are based on the Comprehensive System (CS; Exner, 1974, 2003), currently the most frequently used method for applying the Rorschach in research and practice. These indices include both markers that point out incapacity to minimize subjective distress, and those demonstrating proneness to

psychopathological manifestations in the affective, interpersonal and cognitive realms.

## Rorschach Markers of Trauma Effects

### Rorschach Markers of Incapacity to Minimize Subjective Distress

*D* and *AdjD*. The *D* and *AdjD* scores are CS indices that represent situationally-related and chronic failure to maintain a sense of psychological equilibrium respectively (Exner, 2003; Weiner, 2003; Weiner & Greene, 2008). These are the most comprehensive CS constellation indices, composed of all the major variables of available mental resources as compared to the experienced demands of reality. Several studies showed that a high percentage of traumatized people present *D* and *AdjD* scores that are below the cutoff point of 0, presumed to indicate incapacity to minimize situational and chronic distress respectively. Lowered *D* and *AdjD* have consistently been found among veterans from Vietnam or those who served at the Gulf War, and were significantly different from those found in a control group of soldiers who did not participate in war (Hartman et al., 1990; Levin, 1993; Sloan et al., 1995). These findings demonstrate how coping is undetermined by the acute and chronic management of intrusive thoughts and sense of helplessness that constitute substantial factors in traumatic experience (Wilson & Keane, 1997). Furthermore, Sloan, Arsenaault, Hilsenroth, Handler, and Harvill (1996) found that the significantly lowered *D* and *AdjD* scores of those exposed to war stressors disappeared in a follow-up study conducted three years after the initial collection of data.

### Rorschach Markers of Proneness to Psychopathological Manifestations

*S-CON*. The *S-CON* is a CS constellation index that was validated as a measure of self-destructiveness in adolescents and adults. The index was found to be significant in samples of adult patients indicating high level of distress (Exner, 2003; Fowler, Piers, Hilsenroth, Holdwick, & Padawer, 2001). Although usually not applicable for children, Clinton and Jenkins-Monroe (1994), found significant *S-CON* in children who were sexually abused. Thus, within the clinical setting the *S-CON* is suggested to be used in all cases of traumatized adolescents and adults.

*DEPI*. The Depression Index (*DEPI*) is a CS measure of general distress. Exner and Weiner (1995) pointed to a significant *DEPI* as being associated primarily with a persistent disposition towards recurring episodes of depression. Review of Rorschach studies of patients in different age groups shows mixed findings as to the predictive power of the *DEPI* in relation to DSM interview-based diagnoses (Jorgensen, Andersen, & Dam, 2000). These studies show that a significant *DEPI* is unrelated to observable behaviors that fit into DSM diagnoses of mood disorders. Nonetheless, it can be used as a constellation index for evaluating level of subjective distress. Elevated *DEPI* was found among children and adolescents diagnosed with Post Traumatic Stress Disorder (PTSD) as compared to American reference data (Holaday, 2000), and in sexually abused girls being compared to a matched clinical group without history of abuse (Leifer, Shapiro, Martone, & Kassem, 1991), pointing out the depressive component of PTSD in children and adolescents. Nonetheless, Rorschach depressive indicators in protocols of traumatized adults seem to be less obvious (Frueh, Leverett, & Kinder, 1995).

*HVI*. The Hypervigilance Index (*HVI*) is a CS measure of high alertness to potential sources of threat and is scored positive when the protocol does not include any Texture responses (T) and four or more of seven other findings included in the index are significant. A positive *HVI* is considered to be related to projection of anger and hostility (Exner, 2003; Weiner, 2003; Weiner & Greene, 2008). Exner (2003) found a positive *HVI* in 88% of patients diagnosed with paranoid schizophrenia and in 90% of a sample of patients with paranoid personality disorder. Studies in traumatized people showed elevated *HVI* scores, representing over-alertness and watchfulness associated with traumatic experiences (Levin, 1993). *HVI* was used in the current study as a dimensional variable (independent of T). As such, it captures a cautious and detail oriented approach in scanning the environment, underlying alertness, suspiciousness, anger, and a need to protect and distance oneself in interpersonal relationships.

*PTI*. The Perceptual Thinking Index (*PTI*) is a CS constellation index of impaired cognitive functioning. It was developed as a revised version of the Schizophrenia Index (*SCZI*), both evaluating ideational clarity and perceptual accuracy. These indices were consistently found as valid measures in differentiating schizophrenia-spectrum patients from non-patients and patients diagnosed with other psychopathological conditions including mood disorder with no psychotic features (Exner, 2003; Dao, & Prevatt, 2006). The *PTI* was empirically validated as a measure of thinking disturbances when used categorically with a cutoff score of 3 (Weiner & Greene, 2008). Elevated *SCZI* or *PTI* were found in Rorschach protocols of adults with traumatic background as compared to those without history of trauma (Smith, Chang, Kochinski, Patz, & Nowinski, 2010), and in those of traumatized children and adolescents (Holaday, 2000; Viglione, 1990) as compared to reference data. These findings were interpreted as showing cognitive disruption, when victims cannot comprehend or make sense of the irrational, illogical, and confusing experiences.

*TCI*. The Trauma Content Index (*TCI*; Armstrong & Loewenstein, 1990) is a constellation index based on CS variables that measures traumatic associations as being revealed in the Rorschach protocol. Elevated *TCI* scores are considered to be indicative of intrusion of traumatic related material, bodily preoccupation, a sense of being impaired, and concerns about physical integrity. Previous research found elevated *TCI* among traumatized children, adolescents and adults with or without diagnosis of dissociative disorders (Brand et al., 2006; Brand et al., 2009; Kamphuis, Kugeares, & Finn, 2000; Scropo, Drob, Weinberger, & Eagle, 1998; Smith et al., 2010).

*RFS*. The Reality-Fantasy Scale (*RFS*; Tibon, Handelzalts, & Weinberger, 2005) is a Rorschach index designed to operationalize Winnicott's (1971) construct of potential or transitional space between reality and fantasy, as explored by Ogden (1989) in relation to different psychopathological states. Following Smith (1990), the *RFS* applies Ogden's model to Rorschach work, defining a person's proneness to show psychopathological manifestations (e.g., psychotic thinking) in terms of different forms of collapse of potential space. Previous research in traumatized patients diagnosed with dissociative disorders showed significantly lowered *RFS* scores, indicating psychotic-like cognitive functioning as being revealed by collapse of reality into fantasy (Zeligman, Smith, & Tibon 2010).

### Normative Data

The Rorschach CS has stimulated many empirical studies addressed at measuring and improving the reliability, validity,

and normative data of the test (Exner & Erdberg, 2006; Viglione & Meyer, 2008; Weiner, 1996, 2001; Weiner & Greene, 2008). Recently, Meyer, Erdberg, and Schaffer (2007) conducted an international project that compared CS normative data across 17 samples of adults and 31 samples of children and adolescents from around the world. Overall, the data concerning the adult samples in this project revealed a reasonable degree of cross-national similarity, further confirming the Rorschach as a valid tool of personality assessment.

The Israeli sample of 41 students (Tibon, 2007), which was included in the composite international sample, showed deviations in CS markers of subjective distress. These deviations in CS affective markers were not demonstrated in other realms of mental functioning (e.g., cognitive, interpersonal) as compared to the usually accepted CS cutoff scores of these measures. Thus, although each of the participants in this sample fitted into the definition of non-patients, the whole group showed substantial signs of distress.

The deviations found in the Israeli sample were interpreted as related to the traumatic events within the political context of the Middle East. The Rorschach protocols were collected in two periods during 1996-1997 (January 1996-February 1996; July 1997-September 1997) which followed the assassination of Prime Minister Rabin in November 1995, and the collapse of the Middle East peace process, resulting in prominent escalation in the relationships between the State of Israel and the Palestinian Authority. Data published by the Israeli Ministry of Foreign Affairs (2008) show that during these months there were 10 terror attacks with 52 people killed and hundreds injured. These terror attacks were conducted mostly in major cities in the center of the country and exposed the entire Israeli population to constant unpredictable threat of terror.

When the published data are organized into quarterly summaries for the years 1993 through 2008 it is clear that the 1996-1997 sample was obtained during extreme stress. In fact, these dates correspond to the two quarters that documented the greatest number of attacks and the greatest number of people who were killed or injured from 1994 to 2000. The national trauma of Rabin's assassination and the collapse of the peace process was thus exacerbated by the terror attacks extremely threatening the daily experience of the Israeli citizens. As revealed by the data another spike in terror threat was in 2002. However, since 2002 there was a gradual decrease in the number of people killed in terror attacks to 15 in 2006 and 3 in 2007. Furthermore, the Second Lebanon War in 2006 was felt as a real threat mainly in northern Israel, while people in the center of the country, who were not exposed to the direct threat of war, did not change their daily routine. The focus of the present study was to compare markers of distress in a sample of Israeli non-patients collected during a period of increased rate of terror attacks (High Terror Exposure) to samples collected during periods of reduced rate of terror attacks before and after the Second Lebanon War.

In line with the published data on terror attacks and empirical Rorschach data that point out elevation in Rorschach distress markers in traumatized patients, it was hypothesized that the deviations in the CS markers of subjective distress, shown in the Israeli sample, actually reflected the fact that the sample was collected within the context of national trauma (Tibon, 2007; Meyer et al., 2007). The present study was aimed at further exploring this hypothesis. Accordingly, the main hypothesis was that similar samples of non-patients that were collected in less traumatic periods, would differ from the High Terror Exposure sample, collected in 1996-1997, as to Rorschach

markers of incapacity to minimize felt distress (*D*, *AdjD*). The study further explored the differences between the samples as to Rorschach markers of proneness to psychopathological manifestations in the affective (*S-CON*, *DEPI*), interpersonal (*HVT*), and cognitive (*TCI*, *PTI*, *RFS-P*) functioning.

## Method

### Participants

Participants were drawn from three samples of Israeli undergraduates studying in academic institutes in major cities at the center of the country. Data collection for the first sample (High Terror Exposure) took place in two distinct periods: January 1996-February 1996 ( $N = 24$ ); and July 1997-September 1997 ( $N = 26$ ). From the 50 participants originally included in this sample, nine individuals were dropped by applying exclusion criteria of severe psychopathological symptoms, past psychiatric hospitalization or receiving mental health services within the past two years including the time of testing (Tibon, 2007). The sample of 41 participants, within the age range of 19 - 35 years, was composed of 20 males and 21 females, all of them Jewish who were born in Israel.

Data collection for the second sample (Low Terror Exposure) took place in January 2005-January 2006. In this sample, 36 protocols were administered between January and July 2005, and 23 between October 2005 and January 2006. From the 59 participants originally included in this sample, ten were dropped by applying the same exclusion criteria as in the 1996-1997 sample. The sample of 49 participants, within the same age range as the High Terror Exposure sample, was composed of 19 males and 30 females, all of them Jewish who were born in Israel. Comparing the two samples as to the percentage of males and females did not show significant difference ( $\chi^2 = .91$ ,  $p = ns$ ,  $r = .10$ ).

The third sample (Lebanon War Exposure) originally included 36 participants who were administered the Rorschach in October 2006-January 2007, following the war. From the 36 participants, two were excluded by applying the same psychiatric criteria applied in the previous samples, two were excluded because they served in the Israeli army during the war, and two by applying an exclusion criterion of place of permanent residence in the northern part of country, which was exposed to the missiles and rockets launched by the Hizbollah during the war. The sample of 30 participants, within the same age range of 19 - 35 years, was composed of 5 males and 25 females, all of them Jewish who were born in Israel. Because comparison with the High Terror Exposure sample showed significant relationship between gender and sample affiliation ( $\chi^2 = 7.83$ ,  $p < .05$ ,  $r = .33$ ), preliminary analyses were conducted to control for the gender distribution in the three samples, using ANOVA for gender  $\times$  sample for all the dependent variables. These analyses did not show any main effect for gender. Participants in all three samples were in Israel for most of the time during which the terrorist attacks and war took place. However, none of the respondents was personally involved in any of the war or terror occurrences that took place in the country at the time of the study.

### Rorschach Measures

Following Rorschach studies in traumatized people, we have selected eight indices for comparing the samples. The decision of selecting constellation indices rather than individual vari-

ables was based on the assumption that essentially scales with a greater number of items from a conceptually related category would be more reliable and more stable than a single item from the same pool (Nunnally & Bernstein, 1994). Six of the constellations, *D* and *AdjD* scores, *S-CON*, *DEPI*, *HVI*, and *PTI*, are included in the CS (Exner, 2003). Although the two additional indices, the Traumatic Content Index (*TCI*; Armstrong & Lowenstein, 1990) and the Reality-Fantasy Scale (*RFS*; Tibon, Handelzalts, & Weinberger, 2005), are not included in the CS, they are based on the system's original variables and can therefore be applied by its users.

As noted, the *D* and *AdjD* are assumed to measure incapacity to minimize situational and chronic distress respectively when their value is below the cutoff point of 0. The *S-CON* is a statistically generated constellation index designed to predict self-destructive potential. The index consists of 12 variables and ratios that together yield a single score in which 8 is used as a cutoff point. The *DEPI* is a measure of general distress that consists of 15 variables organized in seven conditions and is considered to be clinically significant when it exceeds the cutoff point of 5, indicating proneness to show mood disorders or a chronic disposition to recurrent depressive episodes. The *HVI* is a measure of high alertness to potential sources of threat. *HVI* was used in the current study as a dimensional variable, capturing a hyper vigilant approach in scanning the environment, and a need to protect and distance oneself in interpersonal relationships. The *PTI* is a global index of impaired cognitive functioning, composed of eight Rorschach variables that are included in five-criteria constellations based on combination of different values.

The *TCI* is a measure of traumatic associations composed of five CS variables of Anatomy (An), Blood (Bl), Sex (Sx), Aggressive (AG), and Morbid (MOR) responses, divided by the total number of responses in the protocol. Since there are no published cutoff points for the *TCI*, the study used the average *TCI* scores found in traumatized inpatients ( $M = .50$ ;  $SD = .40$ ) and outpatients ( $M = .21$ ;  $SD = .14$ ) as a reference point against which to assess whether the *TCI* should be considered clinically significant (Brand et al., 2006; Kamphuis et al., 2000; Smith et al., 2010).

The *RFS* is an evidence-based psychoanalytically oriented index that is composed of CS variables and an additional special score of Reality Collapse (RC). The 11-point scale ranges from  $-5$  (reality collapse into fantasy) to  $+5$  (fantasy collapse into reality). A score of  $-5$  represents the most extreme reliance on fantasy with minimum contact with external reality and a score of  $+5$  represents a strong reliance on the real features of the blot with minimal input of fantasy. A mean *RFS* score of a given protocol (*RFS-P*) is expected to be within the range of  $-.51$  to  $+.65$  in mentally healthy adults.

## Procedure

Participants in all three samples were recruited through word of mouth and were neither paid nor given extra credit in their psychology classes for participation. However, they were offered a meeting with a senior psychologist in which they would be provided with feedback on testing results in exchange for their participation. Half of the participants in each of the samples applied for a feedback meeting that was conducted by the examiner a few weeks following the administration of the test.

The administration and scoring procedures of the three samples followed the CS guidelines available at the time of the study. Accordingly, the administration and scoring procedures

for the High Terror Exposure sample followed the guidelines of Exner (1995) and those for the two other samples followed the guidelines as presented by Exner (2001). There are minor differences between the two versions consisting mainly of additional prompts given to the subject in the 2001 edition. In line with previous research (e.g. Meyer et al., 2007) the different administration procedures did not produce significant differences as to the number of responses. Since seating next to the testee, as recommended by Exner (1995, 2001), might raise hurdles in some groups in Israel because of religious restrictions regarding physical closeness, seating procedures were diagonally opposite. These procedures are in line with the guidelines provided by Allen and Dana (2004) stating that cultural adaptations may dictate departures from CS procedures in research studies. In all three studies test responses were provided by the participants in Hebrew. In the High Terror Exposure sample the examiners coded their own protocols and then an advanced student or an expert recoded each of the protocols. Following this initial phase, a sample of the recoded responses were examined by six groups of raters, each of them included the two raters that originally scored the protocol. Interrater reliability was computed for a sample of 35 protocols randomly selected from the original sample. In the Low Terror Exposure and Lebanon War Exposure samples, we used a similar scoring procedure, in which all responses were first coded by the examiner and then by another coder, an advanced student supervised by a senior clinician. Following this initial phase, the scoring of all the responses was reexamined by a senior clinician. Interrater reliability for all the protocols in both samples was computed.

Results of interrater reliability, computed for the different CS segments (Location & Space; Developmental Quality; Determinants; Form Quality; Pairs; Contents; Popular Responses; Special Scores), showed agreement percentages ranging from .90 to 1.00 in the High Terror Exposure Sample, from .80 to .96 in the Low Terror Exposure Sample, and from .96 to 1.00 for the Lebanon War Exposure Sample. The results of interrater reliability in all the three samples meet the recommended criteria for agreement statistics in Rorschach studies.

## Results

Results of oneway ANOVA which compared the three samples as to the number of responses (R) did not show significant differences (High Terror Exposure:  $M = 22.12$ ,  $SD = 8.02$ ; Low Terror Exposure:  $M = 23.08$ ,  $SD = 8.53$ ; Lebanon War Exposure:  $M = 23.30$ ,  $SD = 9.24$ ). Furthermore, the mean number of responses did not deviate from that of the composed international sample ( $M = 22.31$ ,  $SD = 7.90$ ).

Table 1 presents the means and standard deviations for Rorschach markers of incapacity to minimize distress in the three samples. Results of oneway ANOVA show that the *D* and *AdjD* scores, indicating incapacity to minimize situational and chronic distress respectively, significantly differed across the three samples, with  $F(2, 117) = 9.61$ ,  $p < .001$ ,  $d = .38$  for *D*, and  $F(2, 117) = 9.82$ ,  $p < .001$ ,  $d = .38$  for *AdjD* respectively. Scheffe post-hoc comparisons indicated that the High Terror Exposure respondents showed significantly lowered *D* and *AdjD* as compared to those of Low Terror Exposure sample. Furthermore, these results were also shown when post-hoc Bonferroni correction ( $p < .05/8 = .006$ ) was applied.

Table 2 presents the means and standard deviations for Rorschach markers of proneness to psychopathological manifestations in the affective (*S-CON*, *DEPI*), interpersonal (*HVI*), and

Table 1.  
Means and standard deviations for Rorschach markers of Incapacity to minimize distress (*D* and *AdjD*) in the three samples.

CS Marker	High Terror ( <i>n</i> = 41)		Low Terror ( <i>n</i> = 49)		Lebanon War ( <i>n</i> = 30)		High Terror- Low Terror	High Terror- Lebanon War	Low Terror- Lebanon War
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
D Score	-1.95	2.16	-0.10	1.64	-0.83	2.29	<i>p</i> < .001	<i>ns</i>	<i>ns</i>
AdjD Score	-1.00	1.70	0.47	1.42	-0.13	1.61	<i>p</i> < .001	<i>ns</i>	<i>ns</i>

Note. High Terror = High Terror Exposure Sample (1996-1997); Low Terror = Low Terror Exposure Sample (January 2005-January 2006); Lebanon War = Lebanon War Exposure Sample (October 2006-January 2007); *D* Score = CS variable assumed to measure situational related incapacity to minimize felt distress; *AdjD* Score = CS variable assumed to measure chronic incapacity to minimize felt distress. Post hoc analyses were computed by using Scheffe test.

Table 2.  
Means and standard deviations for Rorschach markers of psychopathological manifestations (*S-CON*, *DEPI*, *HVI*, *PTI*, *TCI* and *RFS-P*) in the three samples.

CS Marker	High Terror ( <i>n</i> = 41)		Low Terror ( <i>n</i> = 49)		Lebanon War ( <i>n</i> = 30)		High Terror- Low Terror	High Terror- Lebanon War	Low Terror- Lebanon War
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
S-CON	5.46	1.64	4.73	1.69	5.37	1.22	<i>ns</i>	<i>ns</i>	<i>ns</i>
DEPI	4.27	1.27	3.76	1.23	3.97	1.33	<i>ns</i>	<i>ns</i>	<i>ns</i>
HVI	2.71	2.01	3.82	1.79	3.90	2.00	<i>p</i> < .05	<i>p</i> < .05	<i>ns</i>
PTI	0.54	0.84	0.49	1.02	0.30	0.53	<i>ns</i>	<i>ns</i>	<i>ns</i>
TCI	0.19	0.15	0.16	0.12	0.16	0.12	<i>ns</i>	<i>ns</i>	<i>ns</i>
RFS-P	-0.10	0.64	0.05	0.64	0.11	0.47	<i>ns</i>	<i>ns</i>	<i>ns</i>

Note: High Terror = High Terror Exposure Sample (1996-1997); Low Terror = Low Terror Exposure Sample (January 2005-January 2006); Lebanon War = Lebanon War Exposure Sample (October 2006-January 2007); *S-CON* = Suicide Constellation Index; *DEPI* = Depression Index; *HVI* = Hypevigilance Index; *PTI* = Perceptual Thinking Index; *TCI* = Trauma Content Index; *RFS-P* = Reality-Fantasy Scale mean score of a given protocol. Between sample differences were computed by Scheffe test.

cognitive (*PTI*, *TCI*, *RFS-P*) functioning in the three samples. Results of oneway ANOVA showed that the *HVI*, indicating over alertness in interpersonal relationships, significantly differed among the three samples, with  $F(2, 117) = 4.77, p < .01, d = .27$ . Scheffe post-hoc comparisons indicated that the High Terror Exposure respondents showed significantly lower level of alertness as compared to those of both the Low Terror Exposure and the Lebanon War Exposure samples. However, when a Bonferroni adjusted alpha level was used, none of the *p* values met the standard ( $p < .05/8 = .006$ ). Moreover, none of the samples showed *HVI* that was higher than the normative upper limit of the international reference data (4.43). Analyses conducted as to other Rorschach markers of proneness to psychopathological manifestations (*S-CON*; *DEPI*; *PTI*; *TCI*; *RFS*) did not point to any significant difference across the samples.

## Discussion

The study evaluates deviations in Rorschach indices usually related to effects of exposure to trauma in three Israeli samples of non-patients. Data collected from 41 Israeli undergraduates in 1996-1997 during a period of increased occurrences of terror attacks in central cities of the country (High Terror Exposure Sample) were compared to those of two similar samples of 49 and 30 undergraduates, collected in 2005-2007, before and after the Second Lebanon War respectively. During this period, the rate and severity of terror attacks were lower. The main hypothesis was that the two samples collected during periods of decreased terror threat in 2005-2007 (Low Terror Exposure; Lebanon War Exposure) would differ from that collected in 1996-1997 (High Terror Exposure) as to Rorschach markers of incapacity to minimize felt distress (*D*, *AdjD*). The study further explored the differences between the samples as to Rorschach markers of proneness to psychopathological manifesta-

tions shown in traumatized people in the affective (*S-CON*, *DEPI*), interpersonal (*HVI*), and cognitive (*TCI*, *PTI*, *RFS-P*) functioning.

The results confirmed the main hypothesis pointing out the High Terror Exposure sample as exhibiting substantial incapacity to minimize felt distress (lowered *D* and *AdjD*) as compared to the Low Terror Exposure and the Lebanon War Exposure samples. Nonetheless, respondents in these two samples showed a tendency towards higher level of alertness (elevated *HVI*) than those in the High Terror Exposure sample. Comparisons between the samples as to Rorschach markers of proneness to psychopathological manifestations of self destructiveness (*S-CON*), general distress (*DEPI*), and impaired cognitive functioning (*PTI*, *RFS*) did not point to any significant difference and were within the international normative range. Furthermore, the samples did not differ on the Rorschach marker of traumatic associations (*TCI*) that was in all three groups lower than the average score found in traumatized inpatient and outpatient populations.

The results as to the substantial subjective distress shown in the High Terror Exposure sample seem to validate recent findings that are at odds with traditional mental health models of collective trauma, in which reactions to traumatic events are strongly coupled with proximity to their occurrences in time and place (Schuster et al., 2001). These results further draw attention to the differences between the potential effects of war and those of terrorist actions on public mental health. Although the Lebanon War Exposure sample was collected during a period of heightened threat to national security in which the Israeli-Palestinian conflict was escalating (Kelman, 2007), this sample did not show failure to minimize situational related distress. The difference between the effects of the two types of violent threat, i.e. terror attacks and war, on personal safety and the resulting subjective distress might be related to the extent to

which civilians were able to be actively engaged in their own defense. Research indicates that unlike the perils of war, threat of terrorism offers no trusted safety signal such as siren nor safe places (Shalev, 2006). On the other hand, factors decreasing feelings of helplessness during war (e.g., anti-aircraft batteries) might give people a sense of being in control. Furthermore, mass terrorist attacks are highly visible disasters that are designed to affect not only those in direct vicinity of the attacks but the population at large. Consequently, the boundaries between direct and indirect exposure are blurred, resulting in substantial consequences among those who are directly as well as indirectly affected by the attacks (Galea et al., 2002; Galea & Resnick, 2005). Another factor that magnifies the traumatic impact of terrorism is its impersonal and apparently random nature. Terror attacks innocent civilians rather than professional soldiers, and is promoted by violence detached from symbolic meaning. A culture is often unable to cope and to come up with useful solutions to something that is perceived as impersonal and lacking symbolic meaning (Fonagy, 2003; Twemlow & Sacco, 2002).

With respect to the inferences drawn from the results as to public mental health, the nature of the conclusions touches on the differences between absolute and relative perspectives on normality. Ordinarily, normative Rorschach non-patient data provide descriptive information about groups and offer reference points for comparing individual scores. Most important is the basis they provide for developing some general interpretive guidelines, using the deviation principle for evaluating whether or not specific findings fit into the normative range (Exner & Erdberg, 2005). The present results demonstrate that CS country-specific normative data, collected at different points of time, might show deviations from the international norms because of changing external conditions rather than because of personality predispositions. Indeed, when a group of people is exposed to collective traumatic events some may develop a stress disorder while others may not. However, assessing what circumstances may have led to a stress disorder may have implications for treatment and prognosis. Showing acute, reactive disturbances following national traumatic events requires different therapeutic intervention than a chronic, persistent disorder. Nonetheless, in Israel and other immigrant countries, in which the populations receive mental health services and assessment outside of their country of origin, where certain collective traumatic events would not be accounted for in the country's norms, clinicians should be aware of the patients' historical context.

Nonetheless, the individuals who showed substantially elevated distress in the High Terror Exposure sample were unlikely to function as effectively as they would be able to with less experienced stress. The mean *D* Score shown in this sample was deviant relative to what is expected even though it appears to be deviant because the Rorschach seems to be sensitive to contextual factors. Thus, although a specific Rorschach marker is found to be normative and adaptive in a certain country, it does not mean that one can ignore its implications for clinical practice and/or mental health policy. The Rorschach, when used for diagnostic purposes, shows a person's status with respect to deviations from normative standards. If a large majority in a certain country shows signs of being distressed, their stress is not deviant from a cultural perspective, but it is certainly deviant from a clinical perspective. Being highly stressed is not a normal state. It causes people psychological difficulties, it detracts them from effective functioning, and it should be regarded as a psychopathological condition that calls for treatment, even if it is common. Indeed, there has recently

been a growing interest in studying the manner in which professional communities of mental health clinicians, policy makers, and researchers should respond to the emerging needs following mass trauma (Miller, 2002).

In line with the implications of the deviated Rorschach markers of incapacity to minimize distress (*D* and *AdjD*) we can also suggest possible implications of the tendency being revealed in the Low Terror Exposure and Lebanon War Exposure samples to exhibit paranoid-like positions (elevated *HVI*) in interpersonal relationships. Accordingly, when the real threat of terror decreased, people might have been, as in paranoia, handling their internal fear by projecting it outwards. If so, this could make it easier for them to feel hurt and misunderstood, when this was not intended, feelings that could have clinical and diplomatic implications.

The results seem to have some important implications concerning the validity of the Rorschach and its sensitivity to pick up generalized environmental stressors affecting large groups of people. Studies with other assessment tools have shown that when evaluating the effects of war or terror threat on public mental health, the timing of assessment is crucial and should always be taken into consideration (Silver et al., 2002). In line with these studies our data suggest that the Rorschach is more responsive than previously thought to non-personality contextual factors. This conclusion might be viewed as challenging the belief that non-personality variance plays little part or can be fully controlled in interpreting Rorschach data. To a degree, this belief prompted the present study in which the validation procedure is based on independent variables that are lodged in documented facts of terror attacks rather than in inferences.

The present data further validate the *D* Score as the most comprehensive CS marker of experienced distress (Weiner, 1996; Weiner & Greene, 2008), and are in line with previous studies conducted among war veterans with PTSD. The incapacity to minimize situation-related distress during a period of increased terror threat, as shown in the present study, might therefore be interpreted as demonstrating the validity of the *D* Score in picking up more stress at a time when there is good reason to expect there to be more stress. With respect to the lowered *AdjD* in the High Terror Exposure sample, which although not exceeding the normative range differed significantly from the other samples, a question might be raised as to whether this index is more sensitive than presumed to contextual factors.

One of the limitations of the present study relates to the independent variable (exposure to terror threat), not taking into consideration other factors that could influence the reported results. Thus, for example, direct exposure to trauma such as childhood abuse might have been responsible for the elevated subjective distress or for the over alertness, rather than the less direct exposure to threat of terrorist attacks and living in a country during a period of war. Nonetheless, there is no reason to assume that these three non-patient samples differed in relation to direct exposure to trauma in the past and the reported period of High Terror Exposure was indeed characterized by severe terror attacks that extremely threatened the daily life of the Israeli citizens (Israeli Ministry of Foreign Affairs, 2008). This limitation is however related to the basic characteristics of any convenient sample and the recruitment procedures, particularly in Rorschach studies that have implications for the generalizability of the results.

Another limitation that bears upon generalizability of the results is the small size of the sample that might raise a question as to the extent of which the findings can be generalized. How-

ever, a relatively small sample size seems to be the norm in Rorschach research because the administering and scoring procedure can be extremely time consuming and requires special skills of the examiner. The homogeneity of the sample as to age and level of education might also limit the application of the results to other groups of adult non-patients. Further research is needed to substantiate and validate our findings suggesting different dynamic processes in coping with effects of national trauma.

## Acknowledgements

We would like to thank Roni Tibon and Roni Suchowski for programming the Rorschach Reality-Fantasy Scale (RFS) that served for processing the data in this study. We also thank Barak Rand and Ayala Ellis who coordinated and supervised the work on Rorschach data.

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