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# SEE FAR CBT Therapy for Children with Post-Traumatic Stress Disorder under Prolonged Political Conflict

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**Abstract:** *Objective:* There has thus far been insufficient discussion of the treatment of Post-Traumatic Stress Disorder (PTSD) in schoolchildren experiencing ongoing missile attacks or prolonged political conflict. The aims of the present study were to investigate the ability of SEE FAR CBT Therapy for Children (SEE FAR CBT-C), an individual intervention protocol for children, in reducing PTSD symptoms and increase resiliency and general self-efficacy during ongoing crises.

*Method:* Children (n = 25, ages 8-13) with significant clinical PTSD receiving individual SEE FAR CBT treatment, were compared to age-matched controls (n = 20) who participated in school-based intervention.

*Results:* Compared to the school-based intervention, SEE FAR CBT was significantly more effective at reducing PTSD severity post-treatment as well as at the follow-up assessment ( $\eta_p^2 = 0.15$ ), including lowering intrusion, avoidance and arousal symptoms, and somatic complaints. In addition, SEE FAR CBT enhance ego-resiliency over time, while general self-efficacy significantly increased among both groups.

*Conclusions:* Under repeated exposure to political conflict, both group and individual intervention may be helpful in alleviating posttraumatic symptoms and somatic complaints among school children, however, SEE FAR CBT-C produces a stronger therapeutic effect on PTSD and ego-resiliency phenomena. Findings are discussed in light of existing literature. Practical implications for therapists working with children and adolescents under prolonged security threat conditions are presented.

**Keywords:** PTSD, children, SEE FAR CBT, psychotherapy, ego resiliency, political conflict, SEE FAR CBT-C for Children with PTSD under prolonged political conflict.

## 1. INTRODUCTION

Major traumatic events, whether manmade or natural disasters, significantly affect the psychological wellbeing of children and adolescents [1]. An extensive amount of literature has proven the occurrence of Posttraumatic Stress Disorder (PTSD) among children exposed to continuous political conflict [2-6].

Farchi and Gidron [7] assessed posttraumatic symptoms among 132 schoolchildren (ages 9-12) exposed to ongoing shelling in the Israeli city of Sderot. At baseline assessment, they observed that 64.5% of

the children exhibited clinical levels of PTSD, according to previously established cutoff scores [8]. Comparable findings were reported in the same area for a clinical population of 77 children and adolescents aged 6-18, in which 67.5% had above-moderate to severe levels of PTSD, as measured by the Child PTSD Symptom Scale [5, 9]. Similarly, Thabet, Abu Tawahina, El Sarraj and Vostanis [10] estimated a 70.1% incidence of PTSD among 9-18 year old children and adolescents in the neighboring Gaza Strip (2008). Rates of PTSD in Sderot communities were estimated to be 43.5% [11]. Jaycox, Stein and Amaya-Jackson [12] have demonstrated similar rates of PTSD following natural disasters. PTSD rates among children living in areas exposed to hostilities and ongoing political conflict are high, and require urgent intervention.

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Jaycox *et al.* [12] suggest that individual, as well as group interventions for children and adolescents, given in different settings (e.g., community clinics or schools) considerably reduce posttraumatic symptoms. The most effective psychotherapies cited in existing literature are prolonged exposure (PE) and eye movement desensitization and reprocessing (EMDR) [13]. PE is an exposure therapy for PTSD that received the most empirical support for its efficacy in comparison to other treatments [14, 15]. In sessions, patients recall traumatic events and with the power of imagination are able to reexamine and reorganize these memories in a way that reduces elevated levels of anxiety associated with them [14]. PE is well tolerated by patients [16] and does not cause symptoms to aggravate with time [17]. However, exposure based therapies are known to suffer from several limitations, such as the finding that most patients never fully remit [18], the treatment can feel too demanding and exhausting for patients and therapists [19] and it does not put emphasis on the powerful interpersonal theme of PTSD [20]. EMDR therapy for PTSD benefits from the need for fewer sessions compared with other cognitive-behavioral therapies [21]. It enjoys large effects sizes and was found to be better than non-specific treatments for PTSD in randomized controlled studies [22], however it does seem to be better than other exposure-based treatments [23]. EMDR was also found to be more successful than pharmacological treatment for PTSD in achieving sustained reduction in symptoms [22]. Studies show that EMDR treatment of traumatized children relieved symptoms of PTSD, anxiety and depression as well [24]. EMDR critics suggest that EMDR is simply a version of exposure therapy and that eye movement is not a vital feature [25, 26].

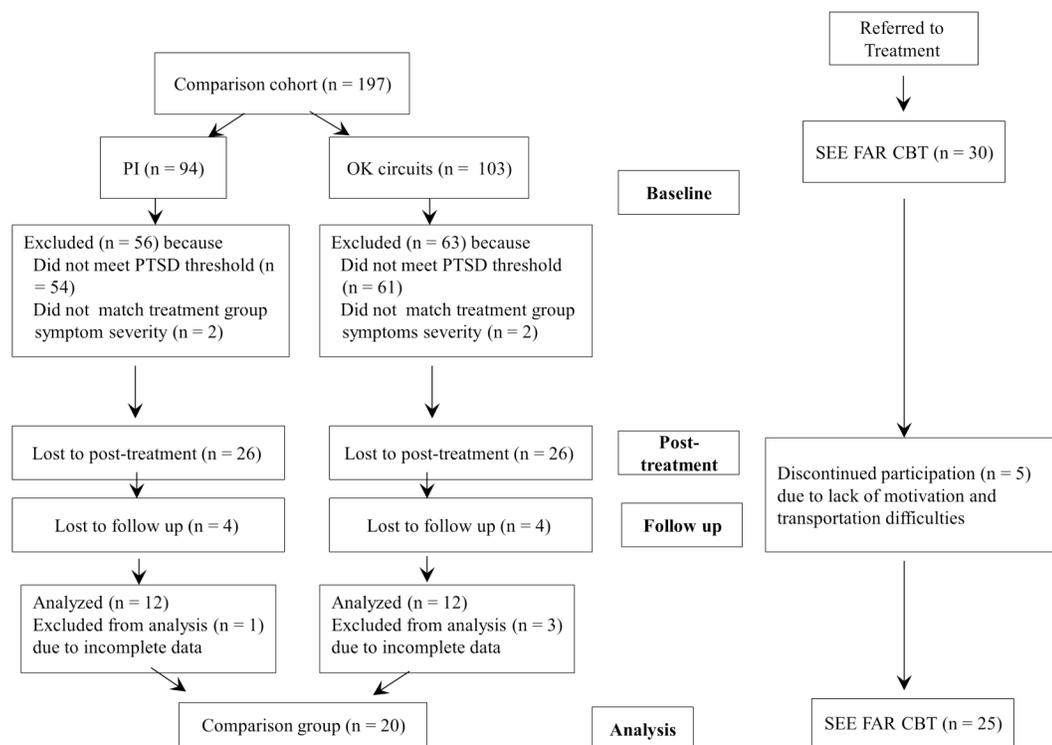
Recent review noted that from a pharmacological perspective, SSRIs and venlafaxine represent the recommended, first-line approach to treating PTSD based on clinical evidence [27]. Kapfhammer [28] reviewed pharmacological treatment of PTSD and suggested that its disadvantages include first and foremost the fact that medical interventions require a doctor's assessment, which has to be justified by numerous risk evaluations. Next, he adds that the public is concerned with the drug's mechanism of action, i.e. altering one's memory; some believe that this change might alter the core feeling of personal identity. Moreover, there are ethical debates concerning several medication's (mainly propranolol) effects on factual recall of a traumatic events.

At the same time, the majority of studies have described the impact of group interventions in situations of ongoing violence and trauma [11, 29-33] while only a few were done with individuals [29]. Using randomized controlled trials, Bryant *et al.* [34] evaluated the impact of CBT on individuals with threat-induced PTSD, and found that eight sessions of CBT significantly alleviated PTSD symptoms, compared to the control group. They further suggest that PTSD, as well as depression and complicated grief, can be effectively treated despite ongoing threats. However, there is no existing literature on the effect of individual treatment for children with PTSD caused by continuous security threats.

SEE FAR CBT [35] is an emerging integrative treatment protocol for PTSD and anxiety disorders which combines CBT, imagery-based, and body-mind methods (for detailed explanation, see [35]). In a preliminary study [36], nine adults who had been civilians living in the war zone of the Second Lebanon War were treated with SEE FAR CBT, which reduced their posttraumatic symptoms and maintained lower levels six months post-treatment, similar to participants receiving EMDR. In the same clinical sample, 14 children and adolescents aged 5-16, treated with SEE FAR CBT and compared to matched controls receiving EMDR, equally had their posttraumatic and dissociative symptoms reduced over the clinical intervention period [37]. Thus, it is proposed that children receiving individual treatment would have significantly reduced symptoms over the course of treatment, compared to a control group.

Findings also suggest that treatment of PTSD using cognitive behavioral techniques significantly improves stress-coping abilities among adults [38], and increases self-efficacy, i.e., the extent to which individuals believe that they are able to produce desired effects by their own actions [39].

Since these propositions have scarcely been examined, an additional target of this study was to investigate whether such intervention had an effect on general self-efficacy and trait resiliency. It was further hypothesized that SEE FAR CBT treatment would enhance ego-resiliency and self-efficacy. The aim of this study was to investigate the potential value of an individual intervention protocol for children in order to reduce PTSD symptoms and other complaints in ongoing crises.



**Figure 1:** Flowchart of the treatment groups used in the study.

Note: SEE FAR CBT treatment protocol; Comparison = Psychological Inoculation and "OK" Circles Intervention.

## 2. MATERIALS AND METHODS

### 2.1. Design

The present investigation used nonequivalent group design, with pre-post and follow-up examination of individual treatment and comparison group-based intervention, intended to reduce PTSD symptoms in individuals suffering from ongoing threats. The impact of the treatment on PTSD, somatic complaints, self-efficacy, and trait resiliency was assessed using self-report scales before, immediately after, and at a six month follow-up.

### 2.2. Participants

The participants of this study ( $N = 45$ ) were children (58% boys), with  $M_{\text{age}}$  of 9.97 ( $SD = 1.10$ , age range: 8-13 years), residents of Sderot and its surroundings. Over the past 15 years, the district of Sderot, Israel, has experienced ongoing shelling and missile attacks from the Gaza strip [40-42]. Over 12,800 Grad and Qassam rockets have been launched, an average of 3 attacks per day, leaving hundreds of civilians emotionally and physically wounded [43]. Deployment of the "Tzeva Adom" ("Code Red": an auditory signal of the local missile warning system in at-risk cities has resulted in a tense daily reality for civilians, who have between 15 and 45 seconds to take cover before

impact [44]. The SEE FAR CBT group ( $n = 25$ ) were mainly boys (72%), while the comparison group ( $n = 20$ ) were mainly girls (60%),  $\chi^2(1, N = 45) = 4.66, p < 0.05$ ; gender effects will be examined further on.

Figure 1 is a flowchart, describing the evolution of participants along different stages of the study. As described in the flowchart, the SEE FAR CBT group initially 30 participants referred to treatment; the group's size decreased to 25 participants after 3 sessions due to transportation difficulties and lack of motivation. Sixty percent of the SEE FAR CBT participants received 13 sessions (40% received 12 sessions) of the adapted SEE FAR CBT-C protocol for children [35]. The mean duration of the entire treatment was 15.5 weeks. The comparison cohort included 197 schoolchildren participating in a study examining the effects of two brief psychological interventions, i.e., psychological inoculation (PI) [7] and OK circuit procedure [45].

PI is a 30-minute group-based intervention, suitable for individuals who have been exposed to, or in the future might encounter, traumatic incidents. The intervention aims to prevent posttraumatic symptoms by encouraging access to inner (i.e., self-motivation, self-efficacy, ego-resiliency) and outer (i.e., social

support) resources, which enable coping. Participants learn to refute five threat sentences and create alternatives that reflect active coping with a situation. PI sessions are conducted face-to-face [7].

Participants were randomly assigned to PI and OK circuit procedure conditions, and later matched to participants in the treatment group by symptom severity. After the exclusion of participants who did not meet the PTSD threshold, did not match treatment group on symptom severity, were lost to post-treatment or follow-up, or had incomplete data, the comparison group included 20 participants. Groups did not differ in age and symptom severity ( $t < 1$ ). Both groups were recruited from a homogenous population, characterized by a low socio-economic status [46].

### 3. MEASURED VARIABLES

#### 3.1. Posttraumatic Symptoms

The Hebrew translation of the Child PTSD Symptom Scale [9] was used to assess PTSD severity and diagnosis among children and adolescents aged 6-18 who had experienced a traumatic event. This scale is a version of the Posttraumatic Diagnostic Scale (PDS), adapted for children with developmentally-appropriate language, and has 17 items which represent the 17 PTSD symptoms, divided into intrusion, avoidance, and arousal subscales (DSM-IV; American Psychiatric Association, 1994). It has psychometric properties of internal consistency, test-retest reliability, and convergent and divergent validity [9]. For the purposes of the current study, items were adapted for the consequences of Operation Cast Lead [47]. A cutoff score of 15 was used to estimate clinical significance of PTSD among participants, as suggested by the International Society for Traumatic Stress Studies (ISTSS;

<http://www.istss.org/ChildPTSDSymptomScale.htm>), instead of the less conservative score of 14 set by Foa *et al.* [9]. Reliability coefficients were acceptable in all three assessments, being  $\alpha = 0.65$ ,  $\alpha = 0.88$ , and  $\alpha = 0.83$  respectively.

#### 3.2. Somatic Symptoms

Six items measured somatic complaints such as headaches, stomach aches, breathing difficulties or asthma attacks, reduced quality of sleep, and irregular eating patterns, which had been previously used to assess the effects of ongoing violence on the mental health of Palestinian and Israeli youth [48]. Participants were requested to report the frequency of each

problem on a 4-point Likert scale (from 0 – not at all, to 4 – very much). Reliability coefficients were acceptable on all three assessments:  $\alpha = 0.73$ ,  $\alpha = 0.65$ , and  $\alpha = 0.60$  respectively.

#### 3.3. Ego-Resiliency

Fourteen items on a 4-point scale measured the "resourceful adaptation to changing circumstances and environmental contingencies" [49]. This scale has been found to be suitable for adolescents [50]. The scale was back-translated, and the reliability coefficient for the Hebrew version was found to be slightly below acceptable levels at baseline ( $\alpha = 0.55$ ), but acceptable at post-intervention ( $\alpha = 0.75$ ) and follow-up ( $\alpha = 0.70$ ).

#### 3.4. Self-Efficacy

The Hebrew adaptation of the General Self-Efficacy Scale (GSES) [51] assesses perceived personal competence with a focus on coping with stressful events, and measures ten items on a four-point scale (1 - not at all true, to 4 - exactly true). The scale has been found to be reliable and valid in several field studies [52]. Reliability coefficients were acceptable on all three assessments:  $\alpha = 0.74$ ,  $\alpha = 0.85$ , and  $\alpha = 0.81$  respectively.

## 4. PROCEDURE

#### 4.1. Treatment Group

This study was approved by the Israeli Ministry of Education's director of research and ethical committee. The psychotherapists who delivered the SEE FAR CBT-C held an MA in Clinical Psychology or Clinical Social Work, all completed the SEE FAR CBT workshop training (24 hours of focused training in SEE FAR CBT techniques and skills), and participated in monthly supervision meetings given by a qualified supervisor who is proficient in the SEE FAR CBT model.

Parents had approached either the Sha'ar HaNegev Psychological Services Center or the Resilience Center of Sderot, Israel, after being referred by their children's school's counselors following a semi-structured screening procedure. Upon admission the families were offered participation in the study and the study's procedure was explained in depth by a psychologist; interested parents signed an informed consent form. Baseline measures were obtained during the first therapeutic session, in the presence of the parents. Three psycho-education sessions were administered to

parents at three points of the treatment - beginning, middle, and end - in order to explain the psychological impact of the traumatic events on their children [53] and provide tools and techniques to help their children cope with the unstable security situation. End-of-treatment measures were obtained at the final therapeutic session. Six months after treatment was completed, the children, along with their parents, were invited to a follow-up session in which they were reassessed.

#### **4.2. SEE FAR CBT-C Protocol for Individual Children, Adapted for Ongoing Crises**

Described in detail both in English and in Hebrew [35, 36], SEE FAR CBT protocol consists of nine stages, delivered over 12 to 14 weekly 90-minute sessions. The stages include: 1) A detailed intake interview combined with assessment and diagnosis of PTSD; 2) Psycho-education on the therapy plan; 3) A mutual decision that therapy is necessary; 4) Clarification of therapy objectives; 5) Relaxation training, establishment of safe place using cards, and anchoring sensations in the body; 6) Examining avoidances and building an *in vivo* exposure hierarchy, practicing *in vivo* exposure, desensitization, and using therapeutic cards as fantastic reality (FR); 7) Re-narration in FR using cards and practicing *in vivo* exposure; 8) Processing "hot spots" (i.e., high levels in the subjective units of distress) that surfaced in the re-narration in the FR using cards; practicing *in vivo* exposure; 9) Summary and evaluation of results. Lahad and Doron [35] suggest several adaptations to the SEE FAR CBT protocol for use with children, including shortening the sessions to 70 minutes, reducing the relaxation training and the guided imagery, creating the *in vivo* gradual exposure list along with the parents and the child, and training parents to assist in the practice of experimenting in reality (*in vivo*). In some cases "token economy" is used [41], although not in the current study. Desensitization by therapeutic cards as preparation for real-life exposure is also shorter. In cases where the process of preparing the "safe place" with a card takes over a session, it is recommended to limit time allocated so as not to encourage avoidant behavior. Therapists are encouraged to photocopy or scan the safe place image for home practice and use age-appropriate examples for "anchoring in the body" training. Lahad and Doron [35] have recommended that parents should be informed about PTSD, its manifestation, and possible behavioral symptoms in reaction to the treatment. They also note that parents should be taught to escort their child to the *in vivo*

exposure, avoid criticism of failure, verbally support success, and carefully monitor child behavior between sessions. These, along with occasionally enabling free play in the treatment room, were taken into account by therapists during the study.

#### **4.3. Comparison Group**

Participants in the group-based protocol were contacted with approval from the Israeli Ministry of Education research committee, and parents provided consent for the participation of their children. After children were briefed regarding the research, questionnaires were administered (i.e., baseline). Three days prior to administration, two Qassam rockets had exploded in a nearby area, accompanied by a "Code Red" alarm. Eight weeks post initial assessment, a single session of school-based intervention took place followed by two re-assessments. In the tenth week, children were assessed for the fourth time (i.e., post-intervention), and six months later, children were assessed for the fifth time (i.e., follow-up). PI instructors were clinical social workers.

OK circuits is a 30-minute group-based intervention, suited for children who suffer from PTSD and children who have been exposed to a threat but did not develop PTSD. The ten-stage intervention aimed to reconnect children with their coping abilities and empowering them, based on the integrative model of resiliency, BASIC PH [54, 55]. Questionnaire administration took approximately 45 minutes.

#### **4.4. Data Analysis**

Data was analyzed using STATISTICA v.8, by an independent expert who was blind to the administration of the screening instruments, data entry, and coding procedure, and was not part of the team which had administered treatment. After initial analysis, results were interpreted. Associations between the study's variables were examined using Pearson's product-moment correlation test, and the effect of intervention type and assessment time was evaluated using the two-way ANOVA test with repeated measures. The between-subject factor was intervention type, i.e., group, with two levels - SEE FAR CBT and comparison - and the within-subject factor was assessment time (baseline, post-intervention, and follow-up). For significant effects, post hoc comparisons using the Tukey HSD test were applied. The assumption of equality of variances was not violated in Levene's test for homogeneity of variances,  $F < 1$ . Clinical significance was estimated using the partial eta

**Table 1: Time, Group and Interaction Effects on Posttraumatic Symptoms, Somatic Complains, Ego-Resiliency and General Self-Efficacy (N = 45)**

	Baseline				Post-Intervention				Follow up				Time	Group	Time X Group	$\eta_p^{2+}$
	SEE FAR CBT		Comparison		SEE FAR CBT		Comparison		SEE FAR CBT		Comparison					
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD				
PTSD	30.08	7.15	29.35	8.05	11.24	8.21	20.05	13.24	9.64	5.92	18.85	8.53	68.53***	8.58**	7.41**	0.15
INT	1.90	0.62	1.87	0.68	0.62	0.59	1.26	1.04	0.52	0.45	1.13	0.81	47.17***	6.39*	4.93*	0.10
AVO	1.46	0.42	1.45	0.46	0.41	0.49	0.93	0.75	0.35	0.34	0.90	0.57	47.40***	11.09**	5.42**	0.11
ARS	2.07	0.67	1.97	0.70	1.05	0.79	1.45	0.90	0.92	0.60	1.38	0.44	33.41***	2.49	3.51*	0.08
SOM	7.56	4.60	7.90	4.96	5.20	3.74	5.40	3.86	4.28	3.06	5.55	2.87	12.57***	0.41	0.46	0.01
ER89	37.16	5.84	39.80	4.75	40.88	6.11	39.80	8.66	42.64	6.56	38.60	6.62	2.09	0.33	4.33*	0.17
GSE	27.16	5.03	26.85	6.64	28.08	6.56	26.35	7.80	31.52	4.71	29.00	6.63	8.65***	0.94	0.82	0.02

Note:  $df = 2$ , Error = 86; CPSS = Child Posttraumatic Scale INT = Intrusion, AVO = Avoidance, ARS = Arousal, SOM = Somatic Complains; ER89 = Ego Resiliency; GSE = General Self-Efficacy;  $\dagger$ partial eta squared for interaction effect; SEE FAR CBT - Individual Intervention Treatment protocol; Comparison = Psychological Inoculation and "OK" Circles Intervention \* $p < 0.001$ , \*\* $p < 0.01$ , \*\*\* $p < 0.05$ .

squared ( $\eta_p^2$ ) values. These values are reported by the ANOVA test as described by Cohen [56]:  $\eta_p^2 > 0.01$  = small effect size,  $\eta_p^2 > 0.06$  = medium effect size, and  $\eta_p^2 > 0.14$  = large effect size. Estimates of effect size (Cohen's  $d$ ) for the change in PTSD clusters were obtained by using a formula suggested by Kotrlík and Williams [57], and interpreted after Cohen [56] as  $d' > 0.20$  = small effect size,  $d' > 0.50$  = medium effect size and  $d' > 0.80$  = large effect size. Chi-square tests were used to compare prevalence of probable PTSD at post-intervention and follow-up between study groups.

## 5. RESULTS

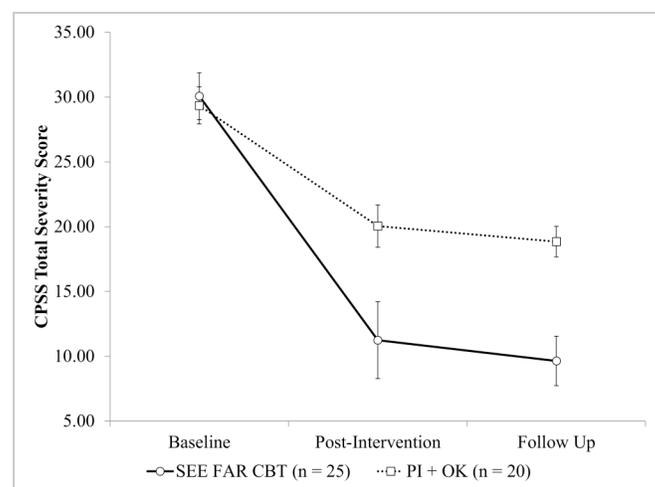
### 5.1. Associations between Study's Variables

The Pearson product-moment correlation test showed positive association between the baseline total PTS severity score and somatic complaints,  $r(45) = 0.47$ ,  $p < 0.001$ , but no significant association with gender, age, general self-efficacy, or ego-resiliency. Ego-resiliency and self-efficacy were significantly and positively correlated,  $r(72) = 0.44$ ,  $p < 0.01$ . Table 1 shows time, group, and interaction effects on posttraumatic symptoms, somatic complains, ego-resiliency, and general self-efficacy.

### 5.2. Posttraumatic Symptoms: Total Severity

As Table 1 shows, a significant group effect was evident on PTSD total severity, as well as on intrusion and avoidance subscales; however, the interpretation of the group effect had minimal meaning, thus only time and interaction effects were reported in detail and

interpreted. Time significantly affected total severity levels of posttraumatic symptoms,  $F(1, 43) = 68.53$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.61$ , indicating that both interventions significantly reduced symptoms over time. In addition, a significant interaction effect was observed,  $F(2, 86) = 7.41$ ,  $p < 0.01$ ,  $\eta_p^2 = 0.15$ . Post hoc comparisons using the Tukey HSD test indicated that at baseline, intervention groups were not different in their total posttraumatic symptoms, but at post-intervention, the SEE FAR CBT group had significantly lower total symptoms than the comparison group ( $p = 0.012$ ). This difference was retained at follow-up ( $p = 0.007$ ) (see Figure 2).



**Figure 2:** Difference in posttraumatic symptoms between SEE, FAR CBT and comparison groups as function of time of assessment.

Note: error bars denote standard error; CPSS = Child Posttraumatic Symptoms Scale; SEE FAR CBT treatment protocol; PI+OK = Psychological Inoculation and "OK" Circles Intervention.

At baseline, 100% in each intervention group was diagnosed with PTSD, according to the cutoff score of 15. At post-intervention, 60% of SEE FAR CBT participants ( $n = 15$ ) were below cutoff point for probable PTSD, compared to 45% of the comparison group ( $n = 9$ ),  $\chi^2(1, N = 45) = 1.00, n.s.$  At follow-up, 72% of SEE FAR CBT participants ( $n = 18$ ) were below cutoff point for probable PTSD, while only 35% ( $n = 7$ ) of the comparison group managed to decrease their symptoms below the clinical level,  $\chi^2(1, N = 45) = 6.16, p < 0.05$ . Changes in posttraumatic symptoms were not related to age or gender. Moreover, gender had no effect on PTSD total severity and was not found to moderate Time X Group effects on PTSD,  $F < 1$ .

### 5.3. Intrusion Symptoms

A significant time effect was found on intrusion symptoms,  $F(2, 86) = 47.17, p < 0.001, \eta_p^2 = 0.52$ , indicating that both interventions had significantly reduced the level of intrusion symptoms over time. In addition, a significant interaction effect was observed,  $F(22, 86) = 4.93, p < 0.01, \eta_p^2 = 0.10$ . Intrusion symptoms were reduced to a much greater extent among individuals of the SEE FAR CBT group ( $M$  difference = 1.38,  $SD = 0.77$ ), compared to the comparison group ( $M$  difference = 0.74,  $SD = 0.70$ ),  $t(43) = 2.86, p < 0.01, d' = 2.86$ .

### 5.4. Avoidance Symptoms

A significant time effect was found on avoidance symptoms,  $F(2, 86) = 47.40, p < 0.001, \eta_p^2 = 0.52$ , indicating that both interventions significantly reduced the level of avoidance symptoms over time. A significant interaction effect was observed,  $F(2, 86) = 5.42, p < 0.01, \eta_p^2 = 0.11$ . Avoidance symptoms were reduced to a much greater extent over time among individuals in the SEE FAR CBT group ( $M$  difference = 1.11,  $SD = 0.54$ ), as compared to the comparison group ( $M$  difference = 0.55,  $SD = 0.70$ ),  $t(43) = 3.06, p < 0.01, d' = 3.06$ .

### 5.5. Arousal Symptoms

A significant time effect was found on avoidance symptoms,  $F(2, 86) = 33.41, p < 0.001, \eta_p^2 = 0.44$ , indicating that both interventions had significantly reduced the level of arousal symptoms over time. A significant interaction effect was observed,  $F(2, 86) = 3.59, p < 0.05, \eta_p^2 = 0.08$ . Arousal symptoms were reduced to a much greater extent over time among individuals in the SEE FAR CBT group ( $M$  difference = 1.15,  $SD = 0.74$ ), compared to the comparison group

( $M$  difference = 0.59,  $SD = 0.77$ ),  $t(43) = 2.49, p < 0.05, d' = 2.49$ . These results indicated that compared to brief interventions, SEE FAR CBT was more likely to produce stronger therapeutic effects on intrusion, avoidance symptoms, and arousal symptoms.

### 5.6. Somatic Symptoms

A significant time effect was found on somatic complaints,  $F(2, 86) = 12.57, p < 0.001, \eta_p^2 = 0.23$ , indicating that both interventions significantly reduced somatic complaints over time. However, neither group nor interaction effects were found. This indicated that compared to brief interventions, SEE FAR CBT was not advantageous in reducing somatic complaints.

### 5.7. Ego-Resiliency

Two-way ANCOVA with repeated measures revealed a marginally significant interaction effect on ego-resiliency,  $F(2, 86) = 4.33, p = 0.052$  (controlling for change in general self-efficacy). Post hoc comparisons using Tukey HSD indicated that while differences between treatment and comparison groups were not evident along assessment points, a significant difference was found for the SEE FAR CBT group only when comparing ego-resiliency scores from the follow-up to the baseline ( $p = 0.006$ ), showing that SEE FAR CBT participants increased their level of ego-resiliency while no changes were observed for the comparison group. The change in ego-resiliency over time was greater for the SEE FAR CBT group ( $M$  difference = -5.48,  $SD = 7.89$ ) than for the comparison group ( $M$  difference = 1.20,  $SD = 6.87$ ),  $t(43) = -3.00, p < 0.01, d' = -1.71$ . In order to explore which items had contributed to the interaction, a multivariate analysis of co-variance was conducted, with group (SEE FAR CBT vs. comparison) as the between-subject factor, change over time in the ER89 as dependent variables, and the change in general self-efficacy as the covariate. A significant group effect emerged,  $F(14, 24) = 2.20, p < 0.05$ , and closer examination revealed that only two items (describing oneself as having a "strong" personality, and desiring new experiences) significantly contributed to the overall effect,  $F(1, 37) = 13.71, p < 0.05$  and  $F(1, 38) = 4.39, p < 0.05$ .

### 5.8. General Self-Efficacy

A significant time effect was found on general self-efficacy,  $F(2, 86) = 8.65, p < 0.001, \eta_p^2 = 0.17$ , indicating that participants in both groups significantly increased the levels of their general self-efficacy. Post hoc comparisons using Tukey HSD indicated that the

significant change took place between post-intervention and follow-up assessments ( $p < 0.001$ ). No significant group or interaction effects were found.

## 6. DISCUSSION

The current investigation aimed to test whether protocolized treatment, culturally and socially adapted to meet the needs of schoolchildren exposed to recurrent threats, is suitable and effective for treating posttraumatic symptoms, reducing somatic complaints, and increasing general self-efficacy and ego-resiliency. In line with the main assumption, participants receiving individual intervention experienced significant reduction in the severity of posttraumatic symptoms and the three subscales of intrusion, avoidance, and arousal. The results resembled previous research that showed effectiveness of cognitive behavioral therapy on the reduction of posttraumatic symptoms among children [58]. The findings provided further evidence of the effectiveness of a structured protocol for treating PTSD in children who continuously experience security threats [34], and disagreed with recommendations that advise against trauma-focused psychotherapy for patients continuously exposed to trauma [59]. It was observed that both interventions significantly reduced posttraumatic symptoms and somatic complaints. The focus of the mind and body techniques is on the physiological memory, thought to be embedded in the limbic brain structures [60, 61]. According to Van der Kolk [60, 62], the therapeutic process in these approaches rests on the ability of the subjective physical sensation to be told by the patient through focusing on positive and negative sensations. The processes aims for physiological energy discharge and better self-regulation of the body experience and state. From this perspective we tend to assume that the combination of the physiological and imaginative aspects in SEE FAR CBT, may be in part, an explanation to the finding that at follow-up only the individual treatment yielded a sustainable outcome for 72% of the participants whereas the comparison group did so for only 35%.

The reduction of avoidance symptoms had the largest effect size. This may be attributed to the *in vivo* exposure component of the treatment. Suggested as a powerful part of an exposure-based treatment of PTSD [63], *in vivo*, or live exposure to situations, places, and avoided behavior, probably resulted in participants' learning to gain control over their own anxiety. In ordinary CBT, *in vivo* exposure leads the client to be gradually exposed to subjectively distressing social or environmental stimuli and to steadily develop

habituation to these cues, while objectively these cues most likely will not cause harm [36, 64].

In the present context, the children were faced with a reality which was not secure, with the constant potential for rocket attacks, thus making the *in vivo* task challenging clinically. It is suggested that the preceding desensitization in FR during SEE FAR CBT treatment (using cards - pendulation procedure) as a preparation for *in vivo* exercise may therefore play a significant role in helping clients carry out the *in vivo*, and reduce avoidance in continuously threatening circumstances. Further support for this finding is the ego-resiliency aspect, indicating that the *in vivo* exposure encouraged children to experiment and seek out new experiences.

The changes in intrusion symptoms may be attributed to the visual component of the protocol, in which clients were encouraged to use therapeutic cards as subjective visual representation of the incident. Later, they were encouraged to add "wishful cards" which might have helped them through the incident (without changing the outcome). Thus, it is hypothesized that this turns an "impossible" story into a possible one and enables the positive images to compete with the negative ones, leading to a reduction in intrusion [36, 65]. Since no other traditional CBT individual treatment (e.g., prolonged exposure) was examined (although PI training is a CBT procedure taught in the classroom), it is only possible to infer that SEE FAR CBT is superior to brief school-based group interventions in reducing intrusion symptoms.

Although both groups reduced their arousal level, SEE FAR CBT participants were found to be superior to the comparison group in alleviation thereof. These findings might be attributed to the extensive relaxation techniques and breathing exercises practiced in the individual SEE FAR CBT-C treatment. The results emphasize the potential of psychological intervention in addressing excessive arousal, a prominent manifestation in individuals experiencing daily stress about imminent danger [44].

Few PTSD treatment studies have measured resiliency outcomes [38, 66]. The present study was among the first to examine how resiliency measures fluctuate with time as a function of PTSD intervention, and the apparent increase over the course of treatment was evident only for the SEE FAR CBT-C group. Windle, Bennett and Noyes [67] have noted that the ER89 [68] measures a stable personality characteristic and has no particular clinical application. However, changes were observed, and as posttraumatic stress

might impact personality styles [69], individual psychotherapy might also have an impact on disposition related to recovery from negative events. It should be noted, however, that only some aspects of ego-resiliency improved, mostly those dealing with self-esteem and the desire for new experiences. These improvements were evident in the treatment group but not in the comparison group, suggesting that Harvey's [70] criteria for the resolution of trauma were met: long-lasting changes in the way children perceive themselves, as well as their willingness to encounter an uncertain reality. It is not likely that changes in ego-resiliency occurred due to natural personality changes, since it is suggested that such changes occur later in life [71]. The significant increase in general self-efficacy was observed in both groups only at the follow-up assessment phase, suggesting that the treatment is not necessarily the main contributor to the increase. On the other hand, it is possible that the children encountered situations which threatened their safety, such as rocket attacks, between the end of intervention and follow-up assessment, which forced them to cope; it is assumed that the treatment and intervention enhanced children's coping abilities with ongoing danger. Despite the fact that change in self-perception was observed only at follow-up, other studies have indicated that general self-efficacy can be observed immediately following the termination of an intervention. For instance, Slone *et al.* [31] found an immediate increase in self-efficacy among adolescents from southern Israel in unstable security situations after participation in school-based primary prevention intervention. Future inclusion of a control group into a longitudinal design (e.g. wait-list, matched age, and status) might shed light on the factors that increase self-efficacy during a protracted political or civil conflict.

The role of parental involvement in the therapeutic procedure has previously been emphasized [72, 73], but whether parental involvement in treatment significantly enhances child-focused CBT for PTSD remains unclear [74]. The present study does not provide direct answers to this question since parents were not part of the control group, but it is clear that parents' involvement did not impede treatment progress. More research should be conducted on specific components of parental involvement and its relative contribution to PTSD therapy outcomes and maintenance of treatments effects. Limitations of this study include its non-randomized nature, and the absence of a non-treated control group, as used in Bryant *et al.* [34]. Nevertheless, a comparison group which received structured group-based intervention was employed, and thus provided preliminary evidence

for SEE FAR CBT-C efficacy, although intervention was at the group level and not individual. Future studies in this context should be designed as randomized and controlled trials, taking into consideration methodological challenges due to external security threats - the present study, for instance, was conducted under incessant fire. The strength of the current study is its follow-up assessment, which was longer than reported in Bryant *et al.* [34], providing support for the sustained treatment and intervention effects.

## CONCLUSIONS

Effective school-based interventions for PTSD have been discussed in various articles but in most cases it was following a single traumatic incident; few describe interventions or therapy within ongoing situations. However, the possibility of ongoing stress is increasingly evident in countries with unstable security situations, as well as in crime-prone inner-cities. This creates a challenge for clinical psychologists and counselors, as few evidence-based protocols have been tested in such circumstances. The present study offers an individual intervention method for clinical psychologists to practice. As part of the SEE FAR CBT-C intervention, the introduction of therapeutic cards and play [75] are assumed to be beneficial to children. Field reports suggest that children may find it difficult to engage and maintain their attention during the exposure part of treatment. However, active play with the cards by arranging and rearranging them, omitting and adding cards have made it possible for children to experience a sense of control over their traumatic narrative. Over nine years, based on an ongoing feedback and discussions with clinicians who were using the protocol with children and by using consensus methods [41], we added or changed parts, and refined it to the current version of the protocol. In the present study, SEE FAR CBT-C was found to be helpful in alleviating posttraumatic symptoms, somatic complaints, and enhancing ego-resiliency, although the latter ought to be examined further. This study suggests that among children with a clinical level of PTSD, individual treatment was found to be advantageous in reducing symptoms of PTSD, relative to group intervention. However, in the case of a mass disaster which affects many students, the group method as an immediate relief of symptoms should be considered - followed by close monitoring. Those who continue to manifest above cut-off level symptoms should be referred to individual therapy, offering the school a gradual method of handling the aftermath for the most affected most.

**ABBREVIATION**

CBT - Cognitive Behavioral Therapy

EMDR - Eye Movement Desensitization and reprocessing

FR - Fantastic Reality

PE - Prolonged Exposure

PI - Psychological Inoculation

PTSD - Posttraumatic Stress Disorder

SE - Somatic Experiencing

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