

# Youth resilience makes a difference in mitigating stress: teacher mediated school intervention in Bethlehem

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*This study examined the implementation of the Enhancing Resiliency Amongst Students Experiencing Stress intervention, which is a teacher mediated, evidence based school intervention, targeting youth who have been exposed to ongoing conflict. Our hypothesis was that posttraumatic symptom levels can be reduced when youth have higher levels of ego resilience and that this can be achieved through a teacher mediated, school intervention. We found that ego resilience is negatively related to posttraumatic symptom levels, while anxiety levels and impairment in functioning are positively related. However, in contradiction to our hypotheses, we also found that the school intervention was not sufficient to contribute significantly between the pre and post measures and resulted in higher levels of posttraumatic symptom levels, anxiety levels and impairment in functioning. These findings are explained within the context of the harsh environment in which the students and their families live. Additionally, our findings indicate that implementing a school intervention within the context of continuous exposure to traumatic events may require a more holistic approach.*

**Keywords:** ego resilience, posttraumatic symptoms, school intervention, war exposure

## Introduction

People in countries who have been affected by wars and disasters may suffer from different mental health problems (e.g., Cardozo et al., 2004; Mollica, Cardozo, Osofsky, Raphael, Ager & Salama, 2004). Due to an ongoing intractable conflict (Bar-Tal, 1998), civilians and children from the occupied Palestinian territories (oPt) have been widely exposed to violence and traumatised

### Key implications for practice

1. Integrated school based interventions involving families, care providers and peers may be effective in improving children's resilience
2. Helping teachers deal with their own stress can be significant in promoting effective resilience of school children
3. Cultural adaptation and validation of international mental health assessment tools are essential

during the last decades, and particularly since the outbreak of the second *Intifada* (popular uprising) in October 2000 (Pat-Horenczyk et al., 2009). A number of studies have indicated high rates of psychological distress and posttraumatic stress disorder (PTSD) among Palestinian youth (e.g., Lavi & Solomon, 2005; Qouta, Punamaki & El Sarraj, 2003; Pat-Horenczyk, Peled, Miron, Brom, Villa, & Chemtob, 2007; Pat-Horenczyk et al., 2009).

A study on Palestinian youth exemplified the high rates of mental health problems, indicating that 93% reported exposure to a traumatic situation, among them 50% were found to be suffering from partial PTSD, and 31.3% were categorised as having full PTSD (Shaheen, Friedman, Kirschbaum, Soreq & Saar, 2012). These high rates of exposure to conflict related violence and the high rates of posttraumatic distress among Palestinian youth (Pat-Horenczyk

et al., 2009; Shaheen et al., 2012), prompted the implementation of a school mediated intervention with Palestinian youth. Given the Palestinian cultural stigma against people who seek individualised mental health care (Leshem, Haj-Yehia, & Guterma, 2015) and the high prevalence of traumatic experience, a school based intervention was an appropriate model, utilising a natural setting in an attempt to enhance children's resilience. The intervention utilised the model of the Enhancing Resiliency Amongst Students Experiencing Stress (ERASE-Stress) programme (Berger & Manasra, 2005; Berger, Gelkopf, & Heineberg, 2012; Berger, Pat Horencyk, & Gelkopf, 2007). ERASE-Stress is a school based, teacher delivered intervention that provides students with educational material, cognitive behavioural skills, affects regulation strategies and meditative practices, and helps children to practise these skills at school, in the community, and at home with family support (Gelkopf & Berger, 2009).

The current study sought to evaluate the outcomes of the ERASE-Stress programmes in Bethlehem, by examining the prevalence of posttraumatic symptoms (PTS) and the relationships between PTS and children's characteristics: the levels in which they experienced war exposure, subjective exposure, impairment in functioning, levels of anxiety and ego resilience. Moreover, we examine whether ego resilience has unique prediction ability above and beyond that of impairment in functioning and levels of anxiety among Palestinian youth.

### **Ego resilience and PTSD**

There is a range of outcomes in the way individuals cope with traumatic experiences and ample research has been conducted to explore different reasons why some individuals can recover from a traumatic event, while others develop PTSD/PTS (e.g., Agaibi & Wilson, 2005; Wilson, Wilson & Drozdek, 2004). Ego resiliency is one of the

constructs that can help to explain these outcomes, and refers to the ego structures that keep the personality system functioning and allows adaptation (Block & Kremen, 1996). Resilience can be explained as the capacity to successfully adapt to disturbances that threaten the ability to function, be viable and develop (Masten, 2014). It can also be described as a complex dynamic process impacted by time and context dependent variables, and not only the balance between risk and protective factors (Tol, Song, & Jordans, 2013).

Ego resiliency refers to an individual's characteristics, not to highly specific, one-off behaviour (Block & Kremen, 1996), meaning that it encompasses: strength, flexibility, a capacity for mastery, and the ability to continue normal functioning after excessive stress that challenges coping skills (Folkman & Lazarus, 1988; Richardson, 2002). The ego structures can be effective or ineffective in helping individuals cope by using their psychological capabilities, such as their tolerance to anxiety levels, their ability to deal with situational impingements, their impulse control and their adaptability (Block & Kremen, 1996; Windle, Bennett & Noyes, 2011). A general resourcefulness of personality, engaging positively with the world, intelligence and traits of flexibility and resistance against stressful situations are also included in the concept of ego resilience (Farkas & Ozros, 2015; Windle, et al., 2011).

The development of PTS resulting from traumatic stressors can be an outcome of personal vulnerability or types of pre traumatic vulnerability (e.g., prior stressors, trauma or psychological disorders) and may be mitigated by resiliency factors (Agaibi & Wilson, 2005). Different factors were found to be associated with resiliency (Agaibi & Wilson, 2005), such as: genetics and neurobiological factors (Southwick, Vythilingam, & Charney, 2005); gender; age; childhood development; personality; cognitive style (Agaibi & Wilson, 2005;

Punamaki, Qouta, & El-Sarraj, 2001); the type of trauma involved (Wilson, 1995); prior history of exposure to stressful events; affect regulation; and social support (Betancourt & Khan, 2008; Fredrickson, Tugade, Waugh, & Larkin, 2003; Schore, 2003). Studies have shown that diverse resilient aspects of personality, such as dispositional optimism (e.g., Lai, 2009), a trait which captures a positive psychological capital (Luthans, Avolio, Avey & Norman, 2007) are positively related to both psychological and physical health (Lai, 2009; Schaubroeck, Rioli, Peng & Spain, 2011). However, the direct relationships between ego resilience and PTS have not yet been fully understood.

### **Resiliency among youth**

In aiming to understand resiliency one can focus on risk and vulnerability factors, protective factors, the ability to cope, personality and the capacity to use resources (Agaibi & Wilson, 2005). In examining ‘at-risk’ populations, such as conflict affected youth, that exhibit resiliency (e.g., displaced refugees), various protective factors have been identified (Solomon, Neria, Ohry, Waysman & Ginzburg, 1994; Wilson et al., 2004), such as positive development, a capacity to cope with stressors (Caffo & Belaise, 2003) and IQ levels. These factors are positively related to social competence in developmental tasks that, in turn, are related to resilient outcomes (Masten, Hubbard, Gest, Tellegen, Garmezy & Ramirez, 1999). For disadvantaged youth, protective factors are necessary for the development of resiliency (Parsons, 1994).

Agaibi and Wilson (2005) suggested that when children don’t experience proximal risk (e.g., neglect, childhood abuse), exposure to distal risks (e.g., poverty) is less harmful and, consequently, they are likely be more resilient. In studying Hawaiian children, the resilient group was characterised as those who received more attention as infants and, according to their mothers, presented more active and social responsiveness

(Werner & Smith, 1992). They were also characterised by their mothers as affectionate, cuddly, good-natured and easy to deal with (Werner, 2004). In another study, Punamaki et al. (2001) followed Palestinian children three years after the termination of military occupation in the Gaza strip and their results indicated that an active response to military violence, creativity (e.g., high cognitive capacity) and nurturing parenting styles resulted in enhancing resiliency factors and beneficial coping. Studies indicated that the feeling of negative social support, or feeling let down by others is a better predictor of PTSD than positive social support (Christiansen & Elklit, 2008). Our study focuses on Palestinian youth, examining the role of ego resilience in the prevention of the development of PTS. A qualitative study revealed several topics that Palestinian youth consider as related to resiliency, such as supportive relationships, normalising life, political participation, education and optimism (Nguyen-Gillham, Giacaman, Naser, & Boyce, 2008). Diverse psychosocial programmes have been developed that have aimed to raise the levels of resiliency among children and adolescents in Palestine (e.g., Baum, Rotter, Reidler, & Brom, 2009; Baum et al., 2013).

### **The current study**

In the current study, we examined the implementation of a school intervention programme in Bethlehem. The programme aimed at reducing stress related symptoms and improving home and school functioning. The study focuses on the relationships between ego resilience and PTS/D, and on the differences between PTS, impairment in functioning, anxiety levels and ego resilience, before and after the intervention. Functional impairment can be seen as an integral part of a PTSD diagnosis and how exposure to political violence might affect youth’s capability to function in multiple

areas of their daily lives (Pat-Horenczyk et al., 2009). Anxiety levels were also found to be related to PTS, and further that both share some common etiological grounds (Gregurek et al., 2001). For example, Croatian war veterans who suffer from PTSD symptoms had significantly higher anxiety levels than veterans without PTSD symptoms (Gregurek et al., 2001). Additionally, we examined the way the ERASE-Stress school intervention programmes can help children by mitigating PTS, functional impairment and anxiety, and enhance ego resiliency.

In this study we examined two main hypotheses. First, we explored the role of resiliency in predicting PTS, hypothesising that (*Hypothesis 1*): *ego resilience would be negatively related to PTS and would predict PTS levels over and above impairment in functioning and anxiety levels (which would be related positively to PTS)*. Then, we refer to pre and post intervention measures, evaluated by comparing screening results of students before and after the model was implemented, hypothesising that (*Hypothesis 2*): *after intervention the participants would exhibit lower levels of PTS, impairment in functioning and anxiety levels, along with higher levels of ego resilience*.

### **Setting and context**

The school based intervention was implemented among students of a private school in Bethlehem called SOS Children's Villages, which provides school education to children from grades 1 to 9. Bethlehem is located south of Jerusalem, in the southern part of the West Bank. The population of the city is comprised primarily of two-thirds Muslims and a one third Christians, with the district population at an estimated 180,000 people. The city has a young population, and many people in Bethlehem live in overcrowded conditions. From 1967 until 1995 Bethlehem was occupied by the Israeli army, after that time the Palestinian Authority took control. However, after the outbreak of the second intifada in 2000, the Israeli army re-

occupied the city. When the second intifada was over, the Palestinian Authority took control again. Unemployment reached 60% in Bethlehem in 2006, compared to 25% across the rest of Palestine (Selwyn & Isaac, 2015). The population in the area was faced, and continues to face, many difficulties not only due to the political, social and economic situation, but also exposure to constant, low intensity ongoing conflict, interspersed with periods of higher intensity. Children enrolled in SOS are considered to be living in poverty, often have inadequate parental care due to familial problems and difficult living conditions, as well as exposure to psychosocial challenges, such as a lack of community and peer support.

## **Methods**

### **Procedure and participants**

The procedure and importance of the ERASE-Stress model was explained to key personnel at the SOS school in Bethlehem. The SOS principal sent letters to the parents, outlining the purpose and the nature of the programme. All of the parents provided written informed consent to partake in the psycho-educational sessions and to allow their children to complete the study questionnaires. Only those who had consent from their parents participated and filled out the questionnaires with support from the researcher. An ethical approval was obtained from the research committee at the school of public health at AlQuds University in Abu Dees.

### **ERASE-Stress programme**

The ERASE-Stress model (developed by Prof. Rony Berger, Berger & Manasra, 2005; Berger et al., 2007) is based on helping children to normalise their stress by building their coping skills through teacher mediated training. The model was adapted for the context of the current study to include 13 training sessions: 1. Introduction to the programme; 2. Strengthening your personal

coping style; 3. Being in your body to identify points of stress in the body; 4. Empowering your body—describe resources available to deal with stress; 5. Knowing your feelings; 6. Connecting the mind and body; 7. Dealing with anger and rage; 8. Dealing with fears; 9. Dealing with grief and loss; 10. Turning trauma into an opportunity; 11. Boosting your self-esteem; 12. Building your support system; and 13. Seeking a better future. Each of the 13 sessions follows a similar format (1.5–2 hours each session): a. warm up; b. experiential exercise; c. psycho-educational material; d. learned skills; e. close; f. self-work.

The efficacy of the ERASE-Stress programme was examined in the past in two randomised controlled trials, which demonstrated a reduced stress related symptoms and improved functioning in youth after a number of terror attacks (in Israel; Gelkopf & Berger, 2009) and a natural disaster (a tsunami at the southern coast of Sri Lanka; Berger & Gelkopf, 2009).

The selection of a school based intervention programme was based on two main reasons. First, setting an intervention within schools may make the intervention available, feasible and affordable (Ehnholt, Smith, & Yule, 2005). Also, by delivering an intervention through schools, it can increase the chances of programme adherence and can provide some peer support (Gelkopf & Berger 2009; Berger et al., 2007). Second, as the deliverers of the intervention are teachers, who are familiar with the students, it allows them to give the programme a personalised touch (Berger et al., 2012).

Training of teachers on the ERASE-Stress programme was implemented on April 2007 and ended on May 2007. The training of teachers took place over a six-day period, for six hours each day. Twelve sessions of training were used to equip teachers with skills that can be used and transferred to their students at the school. The training was conducted by a Palestinian professional trained in the ERASE-Stress model.

After the training, teachers implemented the intervention for 125 students ( $M = 11.14$ ,  $SD = 1.14$ , 40% females), aged 10–14 years old in grades 4 through 8 (a total of five classes, one for each age group), in the presence of the key trainer and researcher. All of the students from these grades participated in preliminary questionnaires. Forty-four children did not participate in the intervention, for a diversity of reasons (e.g., leaving school during summer vacation and others). It is important to also note that the intervention took place while the Palestinian community was witnessing continued political violence. The students completed a survey by the end of May 2007, prior to the intervention [including objective and subjective exposure measures, functional impairment questionnaire, ego resiliency questionnaire, anxiety scales and University of California at Los Angeles Posttraumatic Stress Disorder (UCLA PTSD) Reaction Index]. The intervention took place on October 2007 (six months after the preliminary data was collected). On November 2007, after the intervention, 81 students ( $M = 12.10$ ,  $SD = 1.35$ , 40% females) completed the outcome measures (ego resiliency questionnaire, anxiety scales and UCLA PTSD Reaction Index). Since we did not have a control group, we did not use masking nor randomisation. Fidelity assessments were done to ensure that the manual was followed by the Palestinian professional trained in the ERASE-Stress model.

### Study design

The students completed the questionnaires anonymously. We were precluded from collecting personal identified information that would allow us to match students in the pre and post intervention, and analyse the data as within subject design, so we could not create a nested cohort design (Murray & Hannan, 1990). Thus, we conducted a between subject design in which we compared half of the participants from the pre intervention to half of the participants from the post

intervention. The methodological challenge was to create the two groups and to ensure that the measurement of the pre/post intervention was performed on two statistically independent groups. Hence, the students were divided into different groups according to their ages, in such a way that it ensured that for the statistical analyses, none of the students in the pre intervention cohort were in the post intervention cohort<sup>1</sup>. For the descriptive, correlations and regression analyses we used all 125 participants who answered the first survey, before the intervention.

### **Questionnaires**

All the scales used in our survey were translated, and then back translated from Hebrew into Arabic, and were adapted to the Palestinian context. University of California at Los Angeles Posttraumatic Stress Disorder Index (UCLA PTSD) Reaction Index: Adolescent Version was used. *The Diagnostic and Statistical Manual-IV* (DSM-IV) refers to objective and subjective features of the traumatic exposure and to the symptoms of PTSD. The objective and subjective features of the traumatic exposure items are scored as present or absent. Then, the third part provides a thorough evaluation of the frequency of occurrence of posttraumatic stress symptoms during the past month (rated from 0 = none of the time to 4 = most of the time). These items are highly related to DSM-IV criterion B (intrusion), criterion C (avoidance), and criterion D (arousal) for PTSD. Twenty of the items assess PTSD symptoms, whereas two additional items assess associated features, fear of recurrence and trauma related guilt (Steinberg, Brymer, Decker, & Pynoos, 2004). Since the data were collected prior to the development of the DSM-V, we used this version of the questionnaire (Abdeen & Qasrawi, 2004; Pat-Horenczyk, 2004; Pat-Horenczyk et al., 2009).

**Objective exposure** To assess Criterion A1 (exposure to traumatic events) of the

DSM-IV criteria for PTSD (American Psychiatric Association, 2000), we used the objective exposure questionnaire (Pat-Horenczyk et al., 2007). Participants were asked to respond 'yes' or 'no' to eight statements regarding the degree and type of their exposure to political violence. Exposure level was defined as: (a) personal exposure (e.g., being present at an artillery shooting with or without being physically injured); (b) near miss (e.g., having been near the site of artillery shooting); and (c) exposure of others (e.g., knowing someone who had been exposed and was either hurt or killed) (Pat-Horenczyk et al., 2007). Endorsement of at least one item was sufficient to fulfil Criterion A1.

**Subjective exposure** To assess Criterion A2 for PTSD (subjective exposure expressed by extreme fear, helplessness or horror), we incorporated items derived from the DSM-IV-TR criteria previously used by Pat-Horenczyk et al. (2007). Respondents were asked to indicate 'yes' or 'no' to 15 items (e.g., *'did any of your family members die suddenly or due to illness?'*). An additional six items (*'fearfulness experience'*) assessed whether their exposure to Israeli attack had resulted in fearful, helplessness and horror feelings (e.g., *'did you feel irritable'*) by asking students to indicate 'yes' or 'no'. Endorsement of at least one item of subjective exposure and two responses of 'yes' regarding fearfulness experiences were sufficient to fulfil Criterion A2.

**PTSD** PTSD symptoms were measured using 22 items (e.g., *'when something reminds me of what happened, I get very upset, afraid or sad'*) derived from the self-report version of the UCLA PTSD for Diagnostic and Statistical Manual of Mental Disorders, fourth edition (Adolescent Version) (Goenjian et al., 1995; Rodrigez, Steinberg, & Pynoos, 1999). Scoring ranged from 'never' (0) to 'all the time' (4). The internal consistency was 0.90. A categorical measure for a likely identification of PTSD was computed by

assessing whether the reported symptoms met the criteria required for a diagnosis of DSM-IV. A cumulative PTS score was also computed. The scale has been developed based upon the CPTSD-RI (Pynoos et al., 1987) and its validity and reliability have been described by Steinberg et al. (2004) and Hawkins, & Radcliffe (2006).

**Functional impairment** Functional impairment was measured using seven items (e.g., *I have difficulty studying*) derived from the Child Diagnostic Interview Schedule (regarding social relationships, school performance, family relationships and after-school activities). Scoring ranged from *never* (0) to *all the time* (2) (Lucas et al., 2001). The internal consistency was 0.76. For purposes of comparing group means, total functional impairment scores were computed as the mean of participants' responses. In order to determine whether a student was functionally impaired in a particular domain, we considered impairment to be present when at least one item was endorsed at the very severe level, or when the total score was at least 4.

**Ego resilience** Ego resilience was measured using the Ego Resilience Scale (Block & Kremen, 1996), which consists of 14 items (e.g., *I quickly get over and recover from being startled*). Scoring ranged from *does not apply at all* (1) to *applies very strongly* (4). The internal consistency was 0.77.

**Anxiety** Generalised anxiety (eight items; i.e., *worry about others liking me*) and separation anxiety (seven items; e.g., *get scared if I sleep away from home*) were retrieved from the Screen for Child Anxiety-Related Emotional Disorders (SCARED) self-report inventory assessing anxiety symptoms in children (Birmaher et al., 1997). Scoring ranged from *usually not true* (1), to *usually true* (3), relating to current state. The internal consistency for both general anxiety and separation anxiety was 0.88.

## Data analyses

Analyses were conducted using SPSS-IBM version 22. The data analysis was carried out in several stages. The first stage was a descriptive analysis of the study variables using percentages, mean scores and standard deviations. Next, we entered each dependent variable into a hierarchical regression model in two blocks, to identify whether one of the variables (ego resilience) added to the explained variance above and beyond the other variables. Afterwards the differences between our categorical variables on the other variables were examined using a three-way multivariate analysis of variance (MANOVA). Finally, we examined the outcomes of the intervention, using an Analysis of Variance (ANOVA) test<sup>2</sup>. We dealt with missing data using Available Information Analysis (Parent, 2012).

## Results

Descriptive analyses of the scores of exposure to war, prior to the intervention, indicate many of the children who participated in the study were witnesses to acute situations: 37% were present in a place of artillery shooting, 18% have seen people who got physically hurt by an artillery shooting, the house of 23% of the children was damaged as a result of military armed attacks while for 35% someone from their family was present in an attack and was not hurt. The most striking finding is that 65% of the children lost someone close to them. We also looked at the percentages of subjective exposure. It was found that 35.5% of the children had a family member who died suddenly, 33% were suddenly and forcibly separated from their families, 48.8% were present in a place during an invasion and 63% were in an army attack and were not hurt. The consequences of these events made 50.5% of the children fearful, 47% felt they could not stop what happened to them and felt they needed help and 43% felt irritable. Thirty-nine percent of the children indicated they suffer from functional impairment prior to the intervention.

**Table 1. Correlations between PTS, level of impairment in functioning, separation anxiety, general anxiety, and ego resilience**

	PTS
Level of impairment in functioning	0.47**
Separation anxiety levels	0.09
General anxiety levels	0.30**
Ego resilience	-0.39**

\*\* $p < 0.005$ .

### Posttraumatic symptoms

Prior to the intervention, 36 students (28.8%) reported symptoms meeting the criteria of full PTS (the three clusters of re-experiencing, avoidance and hyper arousal), of those, 22 students (17.6%) reported symptoms meeting the criteria of full PTSD (i.e. subjective exposure, functional impairment, and two out of the three clusters of re-experiencing, avoidance and hyper arousal). An additional 36 students reported symptoms meeting the criteria of partial PTS (two out of the three clusters of re-experiencing, avoidance and hyper arousal), of those, 15 (12%) met the criteria for partial PTSD.

Table 1 represents the correlations between PTS and impairment in functioning, anxiety levels and ego resilience. As expected, the

correlations between PTS, impairment in functioning and general anxiety are positive (with the exception of separation anxiety with null correlation), while ego resilience is negatively related to PTS. To examine the unique contribution of ego resilience to the prediction of PTS over and above levels of anxiety and impairment in functioning levels, we conducted a hierarchical regression analysis.

Table 2 presents the variance in PTS accounted for in each step. The measures of anxiety and of impairment in functioning scores were entered as a first step, and the mean of ego resilience was entered as a second step. Anxiety levels and levels of impairment in functioning accounted for 30% of the variance in PTS, supporting the notion that anxiety levels and levels of impairment in functioning are related to PTS. As we hypothesised (*Hypothesis 1*) ego resilience added significantly to the prediction of PTS (3% of the explained variance).

We examined the differences between children who experienced war exposure, subjective exposure and fearfulness on PTS, impairment in functioning, ego resilience and anxiety levels, using a three-way MANOVA. These differences appear in Table 3 (only significant differences are indicated in this table).

**Table 2 Percentage of variance in PTS ( $M = 18.20$ ,  $SD = 12.41$ ) accounted for in Hierarchical Regression Analysis (prior to intervention)**

	M (SD)	Beta	R <sup>2</sup>	$\Delta R^2$	F <sub>Change</sub>
Step 1			0.30		17.06**; $P = 0.000$
Level of impairment in functioning	1.39 (0.41)	0.41**			
Separation anxiety levels	1.01 (0.71)	-0.17			
General anxiety levels	1.06 (0.67)	0.29**			
Step 2			0.33	0.03	5.70*; $P = 0.019$
Ego resilience	3.13 (0.44)	-0.20*			

\* $p < .05$ , \*\* $p < 0.005$

**Table 3. MANOVA test for the relations between war exposure, exposure in general and fear with levels of impairment in functioning, PTS, ego-resilience, separation anxiety and general anxiety**

	F (5, 113)	Level of impairment in functioning	PTS	Ego resilience	Separation anxiety levels	General anxiety
Objective exposure	1.02; n.s.; $\eta^2_p = 0.04$					
Subjective Exposure	2.47; P = 0.04; $\eta^2_p = 0.09$ F	1.48	7.20**; P = 0.08; $\eta^2_p = 0.06$	1.13	1.37	0.74
			8.36 (4.42) 19.95 (1.94)			
Fear	M (no-exposure) M (exposure) 2.44; P = 0.04; $\eta^2_p = 0.09$ F	2.61	3.25	2.02	8.67**; P = 0.004; $\eta^2_p = 0.07$	8.07**; P = 0.005; $\eta^2_p = 0.07$
	M (no fear) M (fear)				1.01 (0.15) 1.68 (0.18)	1.04 (0.14) 1.41 (0.18)

\*  $p < .05$ , \*\*  $p < 0.005$ .

It can be seen that children who experienced subjective exposure had higher PTS levels, and those who were fearful had higher levels of general anxiety and of separation anxiety.

**The intervention**

Aiming to examine the differences between the pre intervention and post intervention, we conducted an ANOVA test. Gender and age did not reflect any difference in the reported results and thus were not considered in the analyses. We compared the different levels of PTS, anxiety levels (both generalised anxiety and separation anxiety), impairment in functioning levels and ego resilience. As can be seen in Table 4, all of our hypotheses were disproved. Although all the differences, except those regarding ego resilience, are significant, they are opposite to what we expected. The findings indicate that anxiety levels, impairment in functioning and indicators of PTS are higher after the intervention.

**Discussion**

Approximately 60% of the children in our study had a likely diagnosis of full or partial PTS. These percentages are similar to findings from previous studies (Lavi & Solomon, 2005; Pat-Horenczyk et al., 2009; Qouta et al., 2003). The harsh political situation, in which Palestinians experienced frequent military incursions might be reflected in

these findings, although the findings might also reflect the inadequate parental care and other family problems. The children reported high percentages of exposure to war and acute situations. Moreover, nearly 50% of the children indicated they suffer from impairment in their functioning.

Our results imply that once children are exposed to adverse subjective events they are prone to develop PTS. Moreover, those who felt fearful and hopeless had higher levels of general and separation anxiety. The correlations and regression analyses showed that PTS were positively related to functional impairment and anxiety levels and negatively related to ego resilience. These findings are consistent with past literature (Block & Kremen, 1996; Caffo & Belaise, 2003; Punamaki et al., 2001).

**Implications for practice**

We found that ego resilience adds to the variance in PTS over and above anxiety levels and levels of impairment in functioning. Despite the small statistical contribution of ego resilience to the change in PTS levels, it signifies that regardless of the severity and chronicity of stress, children who reported more strengths have increased abilities to handle traumatic stress. The ERASE-Stress programme that was implemented in the SOS school did not help enhance children's

**Table 4. ANOVA test for the differences between pre and post intervention programme**

	Pre versus post	N	Mean	F (1,78)	P
PTS	Pre	41	18.57 (13.51)	5.63	0.02
	Post	39	25.61 (13.17)		
General anxiety levels	Pre	41	0.96 (0.67)	42.00	0.00
	Post	39	1.79 (0.45)		
Separation anxiety levels	Pre	41	0.89 (0.67)	43.92	0.00
	Post	39	1.72 (0.41)		
Ego resilience	Pre	41	3.06 (0.42)	0.13	0.72
	Post	39	3.03 (0.46)		

resilience. This may have resulted from the continuous exposure of the Palestinian population to conflict related violence, including during the intervention. The implemented programme, however, showed good results when implemented elsewhere among other youth who were exposed to adverse situations, like war (Berger et al., 2012). Dissimilarities from the Israeli context and the special hardship faced by SOS children in specific, and Palestinians in general, could be one of the barriers for the lack of improvement in children's resiliency among SOS school children. Studies showed that individuals under chronic stress experience feelings of being overwhelmed and struggle to cope (Wilson, 2004; Wilson, & Agaibi, 2006). For example, the researcher reported that during the time of the SOS school intervention, students were exposed to a severe event when a Palestinian was killed in close proximity to the school. This incident, including the general tense environment, may have aggravated the sense of anxiety among school children. Therefore, the continued symptoms of anxiety could explain the lack of improvement in children's resilience due to the intervention as hypothesised by the study.

We can learn how difficult it is to improve children's mental state in times of war and that future intervention programmes should include more intense interventions, including working with parents, engaging with the community and implementing intense continued resilience building with teachers, students and support within the school. Dawes, Tradoux and Feinstein (1989) emphasised the long-term mental health consequences of exposure to war, noting the importance of integrating diverse programmes to help children (Betancourt & Khan, 2008; Betancourt, Meyers-Ohki, Charrow, & Tol, 2013). It might also be that the intervention itself was associated with higher PTS, as implemented in this case, and so perhaps shouldn't be implemented in this way at all.

### **Limitations and future studies**

Our study had a number of limitations. First, we did not have a comparison group to the intervention. Future studies should implement the intervention programme while comparing it to a control group, in the same school. Second, the SOS school is the home for children who were exposed to already chronic difficulties related to both volatile political and social conditions. Future studies should implement this type of school intervention programme among normative school children exposed to isolated and acute stressful incidents, as opposed to an ongoing chronic type of stress. Conversely, this study had important strengths, including implementing a structured manualised programme within a naturalistic setting, using fidelity checks and clearly defined target outcomes. Though the target outcomes were clear, we suggest that future studies should use more tools, perhaps more concrete behavioural instruments, such as measuring absenteeism, school academic performance, childrens' interaction with other children and their teachers including parents at home. These measures can represent the first step towards stabilising children's anxiety level towards enhancing their resilience.

In summary, we can see how important ego resilience is in preventing the development of PTS and as a treatment moderator/mediator in a school intervention. However, it is salient that a one time and short school intervention may not be adequate for improving the mental health conditions of children when they have been subjected to continuous violence and chronic stress. Normalising stress among school children within the Palestinian context requires interventions at different levels in a system based approach while involving families, community child care providers and communities at large. Specialised school intervention is recommended for normalising stress among children who live in chronic exposure to political violence and social difficulties. A more rigorous research approach

should be utilised to assess the efficacy of school interventions in such peculiar settings.

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<sup>1</sup> To ensure that the two groups were independent, one group of students was selected of the ages 11 and 14 (N = 41, M = 11.36, SD = 0.99) for the pre intervention and the second group was selected from students of the ages of 10, 13 and 13.5 (N = 39, M = 12.03, SD = 1.46) for the post intervention. Since there was only half a year period between the pre intervention and the post intervention, students who were 11 in the pre intervention could not be 10 in the post intervention and students who were 11 or 14 in the pre intervention could not be at the age of 13 or 13.5 during the post intervention.

<sup>2</sup> While ANOVA is analysis of variance, examining the difference in means between two or more groups, Multivariate analysis of variance (MANOVA) is an ANOVA with several dependent variables and tests for the difference in two or more vectors of means.

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