Accepted Manuscript

The relationship between Trait emotional intelligence, prosocial behaviour, parental support and parental psychological control and PTSD and depression

Basel El-Khodary, Muthanna Samara

PII: S0092-6566(18)30059-X
DOI: https://doi.org/10.1016/j.jrp.2019.06.004
Reference: YJRPE 3834

To appear in: *Journal of Research in Personality*

Received Date: 26 May 2018
Revised Date: 6 May 2019
Accepted Date: 10 June 2019

Please cite this article as: El-Khodary, B., Samara, M., The relationship between Trait emotional intelligence, prosocial behaviour, parental support and parental psychological control and PTSD and depression, *Journal of Research in Personality* (2019), doi: https://doi.org/10.1016/j.jrp.2019.06.004

The relationship between Trait emotional intelligence, prosocial behaviour, parental support and parental psychological control and PTSD and depression

Basel El-Khodary* and Muthanna Samara

Department of Psychology, Kingston University London, Penrhyn Road, Kingston upon Thames, KT1 2EE United Kingdom

* Basel El-Khodary (correspondence author)
Department of Psychology
Kingston University London
Penrhyn Road
Kingston upon Thames
KT1 2EE UK
Email: ku59479@kingston.ac.uk
Tel: +44 (0) 77 5110 8096

Declarations of interest: none

Acknowledgements

We thank Qatar University for providing continuous and full support and help to Basel El-Khodary. We also thank the Islamic University of Gaza for their support.

Dr. Muthanna Samara's work on this study was supported by the Qatar National Research Fund (QNRF) a member of Qatar Foundation Doha, Qatar, National Priority Research Programs (NPRP) Grant (NPRP 7 - 154 - 3 - 034).

We thank the Palestinian children and adolescents for their participation in the study. Also, we greatly appreciate the cooperation of parents, schools' principals, and Ministry of Education in Palestine for their agreement to give us a permission to collect the data from the students. Besides, we thank schools' counsellors and psychologists for their help in data collection.

The relationship between Trait emotional intelligence, prosocial behaviour, parental support and parental psychological control and PTSD and depression

Abstract

Objectives: This study investigates the relationship between trait emotional intelligence (trait EI), prosocial behaviour, parental support, and parental psychological control on one hand and PTSD and depression symptoms on the other hand after exposure to war-traumatic events among Palestinian children and adolescents in the Gaza Strip. **Methods:** The sample consists of 1029 students aged 11-17 year old. Of them 533 (51.8%) were female and 496 (48.2%) were male. The following measures were used in the study: *War-Traumatic Events Checklist (W-TECh)*, *Trait Emotional Intelligence Questionnaire – Adolescent Short Form (TEIQue-ASF)*, prosocial behaviour (as part of the *Strengths and Difficulties Questionnaire - SDQ), parental support scale***,** *Parental Psychological Control scale***,** *Post-Traumatic Stress Disorders Symptoms Scale (PTSDSS) and the depression scale.* **Results**: 88.4% (N: 909) experienced personal trauma, 83.7% (N: 861) witnessed trauma to others, and 88.3% (N: 908) have seen demolition of property during the war, mostly by boys. The results also demonstrated that the prevalence of PTSD diagnosis according to DSM-V is 53.5% (N: 549). Further, there is a negative correlation between trait EI and prosocial behaviour in one hand and parental psychological control and PTSD and depression symptoms in the other hand. Likewise, a negative correlation was found between parental support and depression symptoms. Low trait EI and father psychological control significantly mediated the relationship between exposure to war trauma, and PTSD and depression. In addition, negative parenting factors and low prosocial behavior mediated the relationship between exposure to war trauma and depression. **Conclusion:** Trait EI and parental support can be utilized in

interventions to empower children and adolescents' emotional abilities, to strengthen their resilience in facing traumatic event exposure, and thus reduce its effect on PTSD and depression symptoms.

Keywords: war-traumatic events; PTSD; depression; Trait Emotional Intelligence; Palestinians; children; adolescents.

1. Introduction

The number of civilian victims of war situations is increasing (Ehntholt & Yule, 2006). Children who are exposed to war-traumatic events are likely to develop cognitive, emotional and behavioural dysfunction symptoms (Khamis, 2015; Myers-Walls, 2004; Shaw, 2003), as well as a sense of insecurity, which may lead to physical health problems (Ursano, 2002). One recurrent disorder related to exposure to war-traumatic events is PTSD (Slone & Shechner, 2011; Smith et al., 2001; Kolltveit et al., 2012, Wayment, 2004; Hasanovic et al., 2006; De Jong et al., 2001). According to American Psychiatric Association (2013), PTSD refers to
a psychiatric disorder includes intrusion symptoms, avoidance, negative alterations in cognitions and mood, and alterations in arousal and reactivity that can occur in people who have experienced or a traumatic. PTSD can be long lasting, continuing for up to six decades after the event (Kuwert et al., 2007).

Several studies have been conducted in the Gaza Strip indicating that exposure to war-traumatic events leads to PTSD (Abdeen, Qasrawi, Nabil, & Shaheen, 2008; Altawil, Harrold, & Samara, 2008; Elbedour, Onwuegbuzie, Ghannam, Whitcome, & Hein, 2007; Kira et al., 2013; Thabet et al., 2013), psychological maladjustment such as emotional disorders, lower self-esteem (Qouta, El-Sarraj, & Punamäki, 2001; Thabet, Tawahina, El Sarraj, & Vostanis, 2007), anxiety, and depression (Khamis, 2012; Kolltveit et al., 2012; Llosa et al., 2012; Palosaari, Punamäki, Diab, & Qouta, 2013).

Trait emotional intelligence and PTSD

According to emotional processing theory (Foa et al., 1989; Foa & Rothbaum, 1998; Foa & Riggs, 1993), the appraisal of responses and behaviours are important factor in the development of PTSD. Foa and colleagues suggest that negative appraisal of responses and

behaviours may increase the perception of incompetence. They outline the association between the time of the appraisal and the exposure to trauma in the symptoms which develop after the traumatic event, such as daily activity disruption and responses to others. Foa et al. (1989) propose that individual's beliefs prior to, during, and after the trauma may interact to produce a perception of incompetence and a sense of unsafety, which increases the propensity for PTSD. Hence, self-appraisal of the traumatic event is crucial in developing PTSD symptoms.

Trait emotional intelligence (trait EI) is defined as a constellation of emotional self-perceptions located at the lower levels of personality hierarchies (Petrides, Pita, & Kokkinaki, 2007). Research has found that in stressful situations, adolescents with high levels of trait EI report higher levels of self-efficacy and tend to evaluate stressful situations more of a challenge than a threat, compared to those with lower levels of trait EI (Mikolajczak & Luminet, 2008). Furthermore, trait EI has been found to enhance adaptive behaviours in the case of stress, by maintaining joy and reducing sadness, shame, and anger (Mikolajczak, Nelis, Hansenne, & Quoidbach, 2008). Previous research findings show that children with high levels of trait EI evaluate trauma in a more positive way (not negative appraisal). As a result, they may be less likely to develop PTSD.

Several studies show significant associations between high levels of trait EI on one hand, and high prosocial behaviour, high adjustment (Mavroveli, Petrides, Sangareau, & Furnham, 2009), peer-rated social competence, kindness, leadership, co-operation (Mavroveli et al., 2009; Mavroveli & Sánchez-Ruiz, 2011), adaptive coping strategies (Andrei & Petrides, 2013; Mavroveli, Petrides, Rieffe, & Bakker, 2007; Mikolajczak et al., 2008; Mikolajczak, Petrides, & Hurry, 2009), and positive affect (Andrei & Petrides, 2013) on the other. On the contrary, trait EI has a negative correlation with internalizing and externalizing problems (Gugliandolo, Costa, Cuzzocrea, Larcan, & Petrides, 2015) including antisocial behaviour

and bullying (Mavroveli et al., 2009; Mavroveli & Sanchez-Ruiz, 2011), negative affect and somatic symptoms (Andrei & Petrides, 2013; Mavroveli et al., 2007), depressive symptoms, and self-harm (Mavroveli et al., 2007; Mikolajczak et al., 2009).

Family factors and PTSD

Family factors may play a central role in mediating traumatic events and PTSD. The ecological theory emphasizes the importance of family factors in shaping children's characteristics (Bridge et al., 1979; Bronfenbrenner, 1977, 1996). Monson et al. (2012) suggest that interpersonal relationships among family members have a strong association with the development, maintenance, and treatment of PTSD in children. Children who have close relationships with their parents are able to overcome the adverse effects of exposure to traumatic events (Bernardon & Pernice-Duca, 2010; Walsh, 2007). Moreover, students who are diagnosed with PTSD and depression show lower levels of parental support than those without such a diagnosis (Galea et al., 2002; Thabet, Ibraheem, Shivram, Winter, & Vostanis, 2009). In addition, McLaughlin et al. (2013), in a national sample survey of American adolescents, found that adolescents with PTSD are less likely to live with both biological parents. On the other hand, parental psychological control, which refers to forcing children to obey their parents' commands and needs (Vansteenkiste et al., 2005), inhibits the formation of identity in children and adolescents and may reduce the development of their emotional functioning (Wang, Pomerantz, & Chen, 2007). Furthermore, Rogers, Buchanan, & Winchell (2003) state that parental psychological control is a destructive parental style that may cause adolescent mental health problems. Previous literature shows that psychological control has a strong positive association with internalizing problems such as anxiety (Loukas, Paulos, & Robinson, 2005), depression (Barber, 1996; Soenens, Park, Vansteenkiste, & Mouratidis, 2012), and social incompetence (Barber, 1996; Laible &

Carlo, 2004). Moreover, children who experience hard discipline and psychological maltreatment by their parents (Khamis, 2005) or parental stress (Salloum, Stover, Swaidan, & Storch, 2014) show a greater number of PTSD symptoms.

Trauma and its relationship to prosocial behaviour

Self-determination theory (SDT) (Deci & Ryan, 2000; Vansteenkiste, Niemiec, & Soenens, 2010) provides a framework in which to examine human motivation and personality development. It specifies three universal psychological needs essential for effective functioning and psychological health: *autonomy*, which refers to experience of self-endorsement in the individual's activities; *competence*, which refers to the individual's experience of his or her effectiveness when interacting with the environment; and *relatedness*, which is related to reciprocal relationships between the individual and others. Previous research using SDT has found that the satisfaction of these three needs is positively related to well-being. For example, a positive relationship has been found between needs satisfaction and positive outcomes such as vitality (Costa, Cuzzocrea, Gugliandolo, & Larcan, 2016). However, a negative relationship has been found between needs satisfaction and depression (Costa et al., 2016).

Research has revealed that the ability to create and maintain supportive relationships, participate in social activities, and show prosocial behaviour contributes to children's development and well-being and strengthens resilience (Armstrong, Birnie-Lefcovitch, & Ungar, 2005; Gifford-Smith & Brownell, 2003). Previous research has found that exposure to war-trauma may cause emotional and behavioural problems (Catani, Schauer, et al., 2009; Sriskandarajah et al., 2015; Peltonen et al., 2010), which are found to be negatively associated with prosocial behaviour (Cefai, Camilleri, Cooper, & Said, 2011). Moreover,

Keresteš (2006) shows that exposure to war-trauma has a negative long-term effect on prosocial behaviour.

Context of the study

A war against the Gaza Strip happened before the data collection commenced in November 2012, with 175 civilians killed (59 children and 11 women), and 1,399 civilians injured (606 children and 254 women) (Palestinian Health Information Center, 2012). Children exposed to war-traumatic events report increased physical and emotional symptoms, and complain of fears including fear of death and fear of loud sounds, following war (UNICEF, 2012).

The aim of this study is to investigate the mediation effect of trait EI, prosocial behaviour, parental support, and parental psychological control (mediation variables) on the relationship between exposure to war trauma (independent variable) and PTSD in one hand and depression symptoms on the other hand (dependent variables), one year after the war in the Gaza Strip of 2012.

To the best of our knowledge, this is the first study that examines the mediation effect of these variables together on the relationship between the exposure to war-traumatic events and depression symptoms and PTSD, using the diagnostic criteria of PTSD according to the DSM-V (American Psychiatric Association, 2013). According to the above mentioned theories we want to investigate whether trait EI contribute to the reduction of PTSD and depression symptoms, even after exposure to traumatic events and whether parental support and psychological control can affect the exposure to traumatic events.

From an applied perspective, our findings confirm the crucial mediating role of trait EI and effective parenting styles. Therefore, awareness of the effects of parental support and parental psychological control should be raised in parental intervention programmes (Costa et al., 2016).

Based on the SDT and the emotional processing theory, we hypothesize that children who have high level of trait EI, prosocial behaviour, and parental support may report less PTSD and depression symptoms after the exposure to war traumatic events. In contrast, we hypothesize that parental psychological control may lead to increased levels of PTSD and depression.

This is to investigate the strength of the effect of the mediating variables before and after adding them to the model.

2. Method

2.1. Sampling and procedures

Stratified cluster-sampling of Palestinian children and adolescents living in the Gaza Strip was used to create a random sample. The participants were randomly chosen according to their place of residence (North: North Gaza, Gaza; Middle: Middle Area; South: Khan Younis, Rafah), type of school (primary or secondary), and gender (male or female). From each place of residence, we randomly chose two schools (one primary and one secondary). From these schools we randomly chose one boys' school and one girls' school. Next, we randomly selected one class from each school. As a result, 10 classes from year 7, 10 classes from year 8, and 10 classes from year 10 were selected on the basis of 5 boys' classes and 5 girls' classes from each year. The total number of classes was 30 (5 places of residence; 3 grades: year 7, year 8, and year 10; and 2 genders: male and female). The total number of participants at this stage was 1,131 (see supplementary Figure 1).

As we have used a stratified clustering sample method, the assumption of independent observations might be violated. Thus, we used the Durbin-Watson test to check for independence. For the total sample regression analysis, the Durbin-Watson value for PTSD (1.87) and depression (1.99), are higher than the du (1.83). Therefore, the errors are independent, and independence is accepted (Savin & White, 1977). We have also done the

analysis separately by area of residency and Durbin-Watson values ranged from 1.94-2.10 for PTSD and 1.97-2.22 for depression, which are higher than the du (1.86). The only exception was for one area (Gaza area) which had a value of 1.70 lower than the du. The analysis by income also generated higher Durbin-Watson values (range: 1.87-2.50) than the du (1.86). In addition, we have chosen a large sample size (1,131) which will increase the representativeness of the population and decrease the type II error and increase the powerful of statistical analysis which we have used in the study.

Thirty social workers and school counsellors were fully trained by the first author to conduct the interviews and undertake self-report questionnaires with the children and adolescents. The participants completed the questionnaires over two separate sessions. Each session lasted approximately 40 minutes. The data were collected in October 2013 one year after the Israeli attacks on Gaza which occurred in the period 14th to 26th of November 2012.

The children were given information sheets about the study and a parental consent form to give to their parents. Ethical approval was gained from the Ministry of Education in the Gaza Strip and from Kingston University London in the UK.

2.2. Participants

There were 1,131 participants in the study, aged 11-17 years old (mean age: 13.71, SD: 1.36). Some students (N: 102; 9%) were absent or had transferred to other schools at the time of the data collection. As a result, the total sample was 1,029 students, 496 (48.2%) male and 533 (51.8%) female.

2.3. Study instruments

2.3.1 *Demographic variables (DV)*: The demographic variables applied are age (11-17 years), categorized into three groups (youngest age group: 11-12 years, middle age group: 13–14 years, and oldest age group: 15 years or more); gender (male, female); family order (first, middle, last); family size (less than 5, 5-8, more than 8 (based on the average household size

in the Gaza Strip which is 6 (Palestine in figures, 2014); type of residence (city, camp, village); parents' education (none, school, university); parents' job (employed, non-employed); citizenship (refugee, not refugee); whether parents are alive or dead; and monthly income (below or above US$ 600) based on the poverty line and extreme poverty line in Palestine for a household, which are US$ 600 and US$ 500 respectively, where the extreme poverty line is the level of consumption of basic needs of clothing, food and drink (www.pcbs.gov.ps. 2014).

2.3.2. War-Traumatic Events Checklist (W-TECh): The W-TECh includes 28 items reflecting the war-traumatic events conducted against the Gaza Strip in 2012 (El-Khodary & Samara, 2013). Some items in the W-TECh are adapted from the Gaza Traumatic Events Checklist (Hein, Qouta, Thabet, & El Sarraj, 1993) and the Trauma Questionnaire Scale (Qouta & El Sarraj, 2002). The 28 items cover war-traumatic experiences such as traumatic human losses or injuries and home demolition. Further items are added to match the nature of the war in 2012. The questionnaire was piloted and tested with children and corrected accordingly. The W-TECh contains three subscales: 1) experiencing personal war-trauma where children or adolescents themselves are the target of war-traumas, which includes 12 items (e.g., being shot or injured with live ammunition); 2) witnessing human trauma where children or adolescents witness a family member, friend, or neighbour being shot or injured during the war, which includes 10 items; and 3) seeing demolition of property, where children or adolescents see the demolition of their home, school or farm during the war, which includes 6 items (e.g., witnessing the occupied forces destroying houses). The W-TECh is completed by children and adolescents indicating whether they have experienced the traumatic event or not. The Cronbach's alpha of this measure is .83.

2.3.3. Post-Traumatic Stress Disorders Symptoms Scale (PTSDSS) (Altawil et al. 2008): This scale consists of 50 items and is modified to include the diagnostic criteria of

PTSD according to DSM-V (American Psychiatric Association, 2013) including intrusion symptoms, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity. Functional impairment includes items related to somatic symptoms (e.g., getting tired easily), cognitive symptoms (e.g., being unable to stop thinking about traumatic events), emotional symptoms (e.g., getting tense and nervous easily without good reason), social symptoms (e.g., breaking the rules of the family or school), and academic dysfunction symptoms (e.g., being unable to concentrate on study). Children and adolescents rate their experiences on a 5-point Likert-type scale (very often, often, moderately, rarely, never).

Participants are considered to have PTSD, according to DSM-V, if they have: (a) at least one traumatic experience; (b) at least one intrusion symptom, at least one avoidance symptom, at least two negative alterations in cognition and mood symptoms, and at least two alterations in arousal and reactivity symptoms (all scored moderately to very often); (c) significant functional impairment; and (d) the duration of the symptoms last for more than one month. In addition, a total PTSD score is constructed by adding all the PTSD items together. The Cronbach's alpha of this measure is .94.

2.3.4. Trait Emotional Intelligence Questionnaire – Adolescent Short Form (TEIQue-ASF) (Petrides, Sangareau, Furnham, & Frederickson, 2006): The trait EI questionnaire comprises 30 short statements, designed to measure global trait emotional intelligence (EI). Children and adolescents complete the questionnaire on a 5 point Likert-type scale (strongly agree, agree, neither agree nor disagree, moderately disagree, strongly disagree). The Cronbach's alpha of this measure is .61.

2.3.5. Prosocial behaviour: This consists of 5 items which are part of the Strengths and Difficulties Questionnaire (Goodman, Meltzer, & Bailey, 1998). Only the prosocial behaviour scale is used, which describes positive behaviour of children when they deal with others (e.g., showing consideration for other's feelings). Children and adolescents complete

the questionnaire on a 3-point Likert-type scale (certainly true, somewhat true, not true). Higher scores reflect positive prosocial behaviour. The Cronbach's alpha of this measure is .50.

2.3.6. Parental Support (Schaefer, 1965; Schuldermann & Schludermann, 1988): This scale consists of 10 items and describes the parents' behaviour with their children which enhances positive attributes such as self-esteem (e.g., father's praise). Participants respond on a 3-point Likert-type scale (a lot like her/him, sometimes like her/him, not like her/him). Higher scores reflect greater perception of parental support. This is filled in by children about their mothers and fathers. The Cronbach's alpha of this measure is .92.

2.3.7. Parental Psychological Control: This is adapted from the Psychological Control Scale–Youth Self-Report (PCS-YSR) (Barber, 1996). The scale consists of 8 items that describe the parents' behaviour, which could affect the emotional and psychological development of the child, such as love withdrawal (e.g., father often interrupting). Participants respond on a 3 point Likert-type scale (a lot like her/him, sometimes like her/him, not like her/him). Higher scores reflect greater perception of parental psychological control. Children are asked to rate psychological control separately about their mothers and fathers. The Cronbach's alpha of this measure is .84.

2.3.8. Child Depression Inventory (CDI) (Kovacs, 1992): This is based on 10 items with an additional item on harming the self. Each item consists of 3 statements that the respondent chooses from. For example, the item 'feeling of sadness' is represented by three statements, a) I am sad once in a while, b) I am sad at many times, and c) I am sad all the time. The Cronbach's alpha of this measure is .74.

2.4. Statistical analysis

T-test is used to examine the relationship between continuous and categorical variables. In order to determine the effect size, the guideline interpretation of Hedge's g (Cohen, 1988) is

used, with a small effect size considered as 0.20, a medium effect size 0.50, and a large effect size 0.80 or more. Pearson correlation coefficient analysis is used to examine the associations between war-traumatic events, trait EI, prosocial behaviour, parental support, parental psychological control, PTSD (total score), and depression symptoms. Hierarchical regression (for total PTSD and depression as DVs) and logistic regression (for PTSD diagnosis according to DSM-V as DV) analyses are used in order to investigate the effect of trait EI, prosocial behaviour, parental support, parental psychological control (as mediator variables) on the relationship between war-traumatic events as a predictor (Independent Variable "IV") of PTSD and depression symptoms (Dependent Variables "DV"). Only the significant demographic variables from the previous analysis will be included in these models. Firstly, we entered exposure to overall war-traumatic events (IV) in the regression model as a predictor for PTSD (total score) and depression (DV). Secondly, we entered exposure to overall war-traumatic events (IV) in the regression model as a predictor for each mediator variable: trait EI, prosocial behaviour, father and mother support, and father and mother psychological control. Finally, we entered exposure to overall war-traumatic events (IV), and the mediator variables (trait EI, prosocial behaviour, father and mother support, and father and mother psychological control) together in regression model to predict the DV (PTSD or depression). Same steps will be used in the logistic regression to predict PTSD diagnosis; We will change the mediators from continuous to categorical variables by choosing the median of the mediating continuous variables (below the median = 0, the median through highest = 1). We will report standardised and unstandardized coefficients along with 95% confidence interval. In addition, we will report the R^2 and adjusted R^2, which is the explained variance for each model. The level of significant of R^2 change will also be reported to measure how much variance the mediated variables explained in the model of relationship between war trauma, and PTSD and depression.

3. Results

3.1. Demographics and other factors

The participants' age range was 11-17 years, 51.8% were females, and the family size ranged from 2-18 (M=8.6, SD=2.41). The majority of the participants were middle children in their families' order (64.5%), lived in cities (67.2%), their parents were alive (96%), and most (74.7%) came from families with low incomes (see Table 1).

INSERT TABLE 1 HERE

Female students showed higher levels of trait EI ($t(1017) = 2.14$, $p = .03$, $d = .134$), father support ($t(995) = 5.31$, $p < .001$, $d = .339$), mother support ($t(1000) = 3.84$, $p < .001$, $d = .244$), prosocial behaviour ($t(1010) = 7.36$, $p < .001$, $d = .466$), and PTSD symptoms (total score) ($t(1025) = 2.60$, $p = .009$, $d = .162$) than males. In contrast, male students showed higher levels of exposure to war-traumatic events ($t(1020) = 6.50$, $p < .001$, $d = .406$), father psychological control ($t(1014) = 8.63$, $p < .001$, $d = .531$), mother psychological control ($t(1015) = 8.13$, $p < .001$, $d = .512$), and depression symptoms ($t(1019) = 4.52$, $p < .001$, $d = .284$) than females (see Table 2). No gender differences were found with regards to PTSD diagnosis according to DSM-V.

INSERT TABLE 2 HERE

Children of unemployed fathers revealed lower levels of trait EI ($t(1006) = 3.67$, $p < .001$, $d = .230$), father support ($t(985) = 2.34$, $p = .01$, $d = .150$), and mother support ($t(989) = 2.37$, $p = .01$, $d = .151$) than children of employed fathers. On the other hand, they reported higher levels of father psychological control ($t(1004) = 2.40$, $p = .01$, $d = .152$) and depression symptoms ($t(1008) = 3.82$, $p = .001$, $d = .209$) than children of employed fathers.

No significant relationships were found between exposure to war-trauma and PTSD and depression regarding age, family size, family order, type of residence, parents' education, father and mother alive or dead, family income, or citizenship (see Supplementary material 1).

3.2. Trauma, PTSD, trait EI and parenting

Children who reported lower levels of trait EI ($t(1015)= 7.12$, $p < .001$, $d= .451$) and higher levels of father ($t(1012)= 5.45$, $p < .001$, $d= .369$) and mother ($t(1014)= 5.19$, $p < .001$, $d= .287$) psychological control were significantly more likely to be diagnosed with PTSD according to DSM-V than those who reported higher levels of trait EI and lower parental psychological control.

The Pearson correlation indicates that exposure to war-traumatic events has a significant positive correlation with father psychological control ($r= .205$, $p <.001$), mother psychological control ($r= .133$, $p < .001$), PTSD total score ($r= .354$, $p < .001$), and depression symptoms ($r= .194$, $p < .001$). On the other hand, a significant negative correlation between war-traumatic events and trait EI ($r= -.078$, $p = .01$) was found. Trait EI has a negative correlation with total PTSD score ($r= -.284$, $p < .001$), and depression symptoms ($r= -.434$, $p < .001$). Parental support has a negative correlation with depression symptoms (father: $r= -.337$, $p < .001$, mother: $r= -.352$ $p < .001$), whereas parental psychological control has a positive correlation with PTSD total score (father: $r= .244$, $p < .001$, mother: $r= .195$, $p < .001$) and depression symptoms (father: $r= .255$, $p < .001$, mother: $r= 254$, $p < .001$) (see Table 3).

INSERT TABLE 3 HERE

3.3. Predictors of PTSD and depression:

To establish mediation, we followed these steps. Firstly, we entered exposure to overall war-traumatic events (IV) in the regression model as a predictor for PTSD (total score) (DV). Simple linear regression shows that overall war-traumatic events significantly predicted PTSD (Beta = .354, $p < .001$). Secondly, we entered exposure to overall war-traumatic events (IV) in the regression model as a predictor for each mediator variable: trait EI, prosocial behaviour, father and mother support, and father and mother psychological control. Simple linear regression shows that overall war-traumatic events significantly predicted low trait EI (Beta = -.078, $p = .01$), high levels of father (Beta = .205, $p < .001$) and mother (Beta = .133, $p < .001$) psychological control. The results were not significant for prosocial behaviour ($p = .16$), and father ($p = .05$) and mother support ($p = .93$). Finally, we entered exposure to overall war-traumatic events (IV), and the mediator variables (trait EI, prosocial behaviour, father and mother support, and father and mother psychological control) together in regression model and the demographic variables as confounders to predict PTSD. The overall model is significant ($F(9, 943) = 37.16$, $p < .001$). The results demonstrate that low trait EI (Beta = -.257, $p < .001$), and high father psychological control (Beta = .153, $p < .001$) significantly mediate the effect of exposure to overall war-traumatic events (Beta = .341, $p < .001$) on PTSD symptoms. The analysis also shows that females were more likely to predict PTSD (Beta = .209, $p < .001$) but not father's employment status ($p > .05$). The explained variance has significantly increased when adding the mediating variables from around 15% to 26% ($p<0.001$) (see Table 4).

INSERT TABLE 4 HERE

The same analysis was done for depression symptoms. Firstly, we enter exposure to overall war-traumatic events (IV) in regression model for depression symptoms (DV). Simple linear regression shows that overall war-traumatic events significantly predicted depression (Beta = .194, $p < .001$). Secondly, we entered exposure to overall war-traumatic events (IV) in the

regression model as a predictor for each mediator variable: trait EI, prosocial behaviour, father and mother support, and father and mother psychological control. Simple linear regression shows that overall war-traumatic events significantly predicted low trait EI (Beta = -.078, p = .01), high levels of father (Beta = .205, p < .001) and mother (Beta = .133, p < .001) psychological control. The results were not significant for prosocial behaviour (p = .16), and father (p = .05) and mother support (p = .93). Finally, we entered exposure to overall war-traumatic events (IV), and the mediator variables (trait EI, prosocial behaviour, father and mother support, and father and mother psychological control) together in regression model and the demographic variables as confounders to predict depression. The overall model is significant (F(9, 943) = 52.92, p < .001). The results reveal that children with low levels of trait EI (Beta = -.303, p < .001), low level prosocial behaviour (Beta = -.094, p = .001),low level of father (Beta = -.102, p = .009) and mother support (Beta = -.194, p < .001), and high levels of father (Beta = .91, p = .01) and mother psychological control (Beta = .114, p = .002) are significantly mediate the effect of exposure to overall war-traumatic events (Beta = .132, p < .001) on depression symptoms. The analysis also shows that neither gender nor father's employment status (p > .05) predict Depression. The explained variance has significantly increased when adding the mediating variables from around 6% to 34% (p<0.001) (see Table 4).

INSERT TABLE 4 HERE

Moreover, we used logistic regression analysis in order to examine the mediation effect of trait EI, prosocial behaviour, father and mother support, and father and mother psychological control on the relationship between exposure to war-traumatic events and PTSD diagnosis according to DSM-V. Firstly, we entered exposure to overall war-traumatic events (IV) in the regression model as a predictor for PTSD diagnosis according to DSM-V. The results indicate that exposure to overall trauma (p < .001) significantly predict PTSD diagnosis.

Next, we entered exposure to overall war-traumatic events (IV) in the regression model as a predictor for each mediator variable: trait EI, prosocial behaviour, father and mother support, and father and mother psychological control. The results show that overall war-traumatic events significantly predicted low level of trait EI ($p < .001$), high levels of father ($p < .001$) and mother ($p < .001$) psychological control. The results were not significant for prosocial behaviour ($p = .10$), and father ($p = .42$) and mother support ($p = .29$). Finally, we entered exposure to overall war-traumatic events (IV), and the mediator variables (trait EI, prosocial behaviour, father and mother support, and father and mother psychological control) together in regression model to predict PTSD diagnosis. Only low level of trait EI significantly mediated the effect of exposure to overall trauma on PTSD diagnosis. Children with low levels of trait EI are more likely to meet the diagnostic criteria of PTSD when exposed to war traumatic events (see Table 5).

INSERT TABLE 5 HERE

4. Discussion

The purpose of this study is to investigate the mediation effect of trait EI, prosocial behaviour, parental support, and parental psychological control on the relationship between exposure to war-traumatic events, and PTSD (PTSD symptoms and PTSD diagnosis according to DSM-V) in one hand, and depression symptoms on the other. Similar to previous studies, the results show that boys are more likely to be exposed to war-traumatic events than girls (Dubow et al., 2010; Qouta et al., 2001; Smith, Perrin, Yule, Hacam, & Stuvland, 2002; Thabet, Abu Tawahina, El Sarraj, & Vostanis, 2008; Thabet et al., 2009) with a medium effect size. The results are consistent with the majority of studies conducted in the Gaza Strip, which indicate that girls show more PTSD symptoms than boys (Al-Krenawi & Graham, 2012; Pat-Horenczyk et al., 2009; Qouta, Punamäki, & El Sarraj, 2003) with a small effect size. In contrast to some previous studies (Giacaman, Shannon, Saab, Arya, &

Boyce, 2007; Kolltveit et al., 2012; Thabet & Vostanis, 2015), and consistent with others (Barber, 2001; Peltonen, Qouta, Sarraj, & Punamäki, 2010), these results show that boys report higher levels of depression symptoms than girls with a small effect size.

Although some previous studies indicate no gender differences with regards to trait EI (Greven, Chamorro-Premuzic, Arteche, & Furnham, 2008; Mavroveli et al., 2007), the results of this study are in line with several others (Mavroveli et al., 2009; Russo et al., 2012) which indicate that female students have higher levels of trait EI than males with a small effect size.

Similar to previous studies, we found a strong association between exposure to war-traumatic events and PTSD and depression symptoms (Khamis, 2012; Kira et al., 2013; Kolltveit et al., 2012; Llosa et al., 2012; Palosaari et al., 2013). As far as we are aware, the association between trait EI, PTSD and depression symptoms, taking into account other demographic and mediating variables such as prosocial and parenting variables, has not been investigated previously in the Gaza Strip. The results show that trait EI mitigates the effect of exposure to war traumatic events and is negatively associated with PTSD symptoms with a medium effect size. Therefore, higher levels of trait EI may decrease the propensity for PTSD among children and adolescents who are exposed to traumatic events. Previous studies show that children with higher levels of trait EI evaluate stressful events as challenges rather than threats (Mikolajczak & Luminet, 2008) and trait EI improves children's adaptive behaviours when exposed to stressful events (Mikolajczak et al., 2008). As a result, children with high levels of trait EI positively appraise their responses and behaviours towards traumatic events, and thus are less likely to develop PTSD. The results are in line with previous studies which show that children with high levels of trait EI report lower levels of depression symptoms (Mavroveli et al., 2007; Russo et al., 2012).

One important factor that could play a role in the development of PTSD and depression symptoms is parenting style. The results indicate that a high level of parental support might reduce the propensity for depression symptoms only. These results are consistent with previous studies (Bernardon & Pernice-Duca, 2010; Galea et al., 2002; McLaughlin et al., 2013; Thabet et al., 2009; Walsh, 2007). Also in line with previous studies (Catani et al., 2009; Margolin & Vickerman, 2007; Salloum et al., 2014), we found that parental psychological control is positively associated with PTSD and depression symptoms. Furthermore, a medium effect size is found for the link between parental psychological control and gender, with boys reporting more parental psychological control than girls.

Children with parents who listen to them and support them emotionally develop high levels of emotional intelligence. Consequently, they become able to regulate their emotions and understand those of others, resulting in better abilities to solve personal and social problems (Alegre, 2011). In contrast, forcing children to obey their parents' commands and address their needs prohibits the development of their identity and reduces the development of their emotional functioning (Wang et al., 2007). As a result, children may develop low levels of trait EI and this may, in turn, cause more internalizing and externalizing problems (Gugliandolo et al., 2014). Furthermore, a lack of parental emotional support makes adolescents less aware of their own feelings. Accordingly, they may develop a sense of parental rejection which may, in turn, cause depression (Goleman, 1995 cited in Alegre, 2011).

The mediating variables may affect each other, so that for example parental support may increase the level of trait EI, while a high level of parental psychological control may decrease the level of trait EI, which in turn elevate the levels of PTSD and depression symptoms.

With regards to the regression analysis results, we found that trait EI and father psychological control mediated the relationship between exposure to war trauma and PTSD symptoms. This indicates that children and adolescents with high levels of trait EI tend to have low PTSD symptoms, even if they have been exposed to war-traumatic events. On the other hand, high levels of father psychological control significantly mediate the relationship between war traumatic events and PTSD symptoms. For depression, the results show that children and adolescents with high levels of trait EI, prosocial behaviour, and parental support, and low levels of parental psychological control are more likely to have low depression symptoms when exposed to war-traumatic events.

The mediating factors significantly explained more variance of the relationship between war trauma and the outcome variables compared to the reduced model with the demographic variables only.

Another important finding of this study is that trait EI predicted PTSD diagnosis according to DSM-V (American Psychological Association, 2013), whereas prosocial behaviour, parental support, and parental psychological control did not. Thus, children and adolescents who have high levels of trait EI are less likely to develop a PTSD diagnosis according to DSM-V even when exposed to war traumatic events. Previous studies show that trait EI moderates the relationship between exposure to stressful events, cognitive appraisal and an individual's ability to cope (Mikolajczak & Luminet, 2008; Mikolajczak et al., 2008), which indicates that trait EI can play a protective role in alleviating levels of PTSD and depression symptoms.

The findings of the current study reveal that a supportive parenting style could reduce the effects of PTSD and depression. Parents could be a source of satisfaction, competence, and relatedness for their children. Accordingly, children have self-endorsement, develop good reciprocal relations with others and show effectiveness in their activities. In contrast, a

perception of parental psychological control may obstruct autonomy, effectiveness and relatedness and often stops children developing their ability to solve problems on their own, leaving them with a feeling of needing coercion to do activities in their lives. As a result, they may develop a sense of insecurity about their competence (Soenens & Vansteenkiste, 2010). Previous studies (e.g., Barberis, Costa, Cuzzocrea, & Quattropani, 2018) have shown a relationship between trait EI and fulfilment of needs such as empathy, happiness, and self-esteem. Needs fulfilment has been shown to be linked to better personal and socioemotional well-being (Sheldon, Ryan, & Reis, 1996), which confirms the findings of the current study that higher levels of trait EI predict low levels of PTSD and depression even when exposed to war-traumatic events.

This study has some limitations. Firstly, it is a cross-sectional study and thus no causal relationship can be drawn (Baron & Kenny, 1986). Future studies could address this by applying longitudinal designs. However, the study gives an important indication of the mediating influence of trait EI and parenting on the relationship between trauma, and PTSD and depression, while controlling for other individual and family characteristics. Secondly, the reliability of some instruments was low (e.g., trait EI: 0.61). Trait EI is used for the first time in the Palestinian community. Nevertheless, the tools have been translated to Arabic and back translation to English to ensure compatibility. A pilot study was also performed to check for any language or cultural suitability of the tools and specific items. Future study of the same data may include confirmatory factor analysis of the trait EI tool to retrieve suitable scales and subscales by gender and age groups as well. Thirdly, the Durbin-Watson for one area of residency (Gaza area) was lower than the du value. However, the Durbin-Watson values for PTSD and depression in the rest of the 4 areas and income categories are higher than the du (Savin & White, 1977). Finally, we collected data only from children and

adolescents, which may increase the subjectivity. Future studies could include other informants for data collection (e.g., teachers or parents) to increase the shared variance.

Despite the limitations, the study provides empirical evidence for parents, teachers, and practitioners of how trait EI and family factors (e.g., parental support and parental psychological control) mediate the association between exposure to war-traumatic events, and PTSD and depression. Parents and teachers should support children and adolescents and provide them with healthy, positive and warm relationships in order to help them develop and understand their emotions. Therefore, it would be useful to provide intervention programmes in a way that educates parents to use supportive practices compatible with the psychological needs of children and adolescents. In a systematic review, Jordans, Pigott, & Tol (2016) found that the relationship between the client and his/her family involvement and support, moderates the effectiveness of psychosocial intervention. Furthermore, living with both parents has been found to be related to lower rates of PTSD and depression symptom among children who received school-based mental health interventions after exposure to war-traumatic events in Burundi (Tol et al., 2014). Previous research shows that trait EI is essential in emotion regulation (Mikolajczak & Gross, 2008 cited in Mikolajczak et al., 2009), high prosocial behaviour and adjustment (Mavroveli et al., 2009), positive affect (Andrei & Petrides, 2013), peer-rated social competence, co-operation (Mavroveli et al., 2009; Mavroveli & Sánchez-Ruiz, 2011), adaptive coping strategies (Andrei & Petrides, 2013; Mavroveli et al., 2007), depressive symptoms and self-harm (Mikolajczak et al., 2009). Hence, intervention programmes should target children and adolescents' emotional competence. In clinical settings, psychologists need to consider the importance of developing trait EI and the involvement of parents as part of the treatment. Accordingly, counsellors and psychotherapists may need to take children and adolescents' emotional states and parenting styles into account when dealing with children and adolescents who are exposed to traumatic

events, and those who have PTSD or depressive symptoms. To conclude, trait EI and parental support need to be essential parts of psychosocial interventions, which empower children and adolescents' emotional abilities and may strengthen their resilience in the face of traumatic event exposure, and thus reduce its effect on PTSD and depression symptoms.

5. Conclusion

To the best of our knowledge, this is the first study to investigate the relationship between trait EI, PTSD and depression, taking into account demographic, behavioural and parental factors and war-traumatic events. The findings support the claims of self-determination theory that satisfaction or frustration of basic psychosocial needs (emotional needs and parental support), may mediate the relationship between exposure to war-trauma in one hand, and PTSD and depression on the other hand. This study provides valuable evidence that improving trait EI can reduce PTSD and depression symptoms, even after exposure to traumatic events. In addition, the findings emphasize the importance of parental style, showing that parental support can mitigate the effects of exposure to traumatic events, while parental psychological control can aggravate the effect of exposure to traumatic events.

From an applied perspective, our findings confirm the crucial mediating role of trait EI and effective parenting styles. Therefore, awareness of the effects of parental support and parental psychological control should be raised in parental intervention programmes (Costa et al., 2016).

References

Abdeen, Z., Qasrawi, R., Nabil, S., & Shaheen, M. (2008). Psychological reactions to Israeli occupation: Findings from the national study of school-based screening in Palestine. *International Journal of Behavioral Development*, *32*(4), 290–297. https://doi.org/10.1177/0165025408092220

Alegre, A. (2011). Parenting Styles and Children's Emotional Intelligence: What do We Know? *The Family Journal*, *19*(1), 56–62. https://doi.org/10.1177/1066480710387486

Al-Krenawi, A., & Graham, J. (2012). The impact of political violence on psychosocial functioning of individuals and families: The case of Palestinian adolescents. [References]. *Child and Adolescent Mental Health*, *17*(1), 14–22. http://dx.doi.org/10.1111/j.1475-3588.2011.00600.x

Altawil, M., Harrold, D., & Samara, M. (2008). Children of war in Palestine. *Children in War*, *1*, 5–11.

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders*. American Psychiatric Association. Retrieved from http://dsm.psychiatryonline.org/doi/book/10.1176/appi.books.9780890425596

Andrei, F., & Petrides, K. V. (2013). Trait emotional intelligence and somatic complaints with reference to positive and negative mood. *Psihologija*, *46*(1), 5–15. https://doi.org/10.2298/PSI1301005A

Armstrong, M. I., Birnie-Lefcovitch, S., & Ungar, M. T. (2005). Pathways Between Social Support, Family Well Being, Quality of Parenting, and Child Resilience: What We Know. *Journal of Child and Family Studies*, *14*(2), 269–281. https://doi.org/10.1007/s10826-005-5054-4

Barber, B. K. (1996). Parental Psychological Control: Revisiting a Neglected Construct. *Child Development*, *67*(6), 3296–3319. https://doi.org/10.1111/1467-8624.ep9706244861

Barber, B. K. (2001). Political violence, social integration, and youth functioning: Palestinian youth from the Intifada. *Journal of Community Psychology*, *29*(3), 259–280. https://doi.org/10.1002/jcop.1017

Barber, B. K., Stolz, H. E., Olsen, J. A., Collins, W. A., & Burchinal, M. (2005). Parental Support, Psychological Control, and Behavioral Control: Assessing Relevance across Time, Culture, and Method. *Monographs of the Society for Research in Child Development*, *70*(4), i–147.

Barberis, N., Costa, S., Cuzzocrea, F., & Quattropani, M. C. (2018). "Trait EI in the relationship between needs fulfilment and symptoms and attitudes associated with EDs". *Mental Health & Prevention*, *10*, 50–55. https://doi.org/10.1016/j.mhp.2018.01.003

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Bernardon, S., & Pernice-Duca, F. (2010). A Family Systems Perspective to Recovery From Posttraumatic Stress in Children. *The Family Journal*. https://doi.org/10.1177/1066480710376618

Bridge, R., Judd, C., & mook, P. (1979). The Determinants of Educational Outcomes: The Impact of Families, Peers, Teachers, and Schools. Retrieved from http://eric.ed.gov/?id=ED177680

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*(7), 513–531. https://doi.org/10.1037/0003-066X.32.7.513

Bronfenbrenner, U., McClenlland, P., Wethington, E., Moen, P., & Ceci, S. . (1996). *The State of Americans: This Generation and the Next*. Simon and Schuster.

Catani, C., Schauer, E., Elbert, T., Missmahl, I., Bette, J.-P., & Neuner, F. (2009). War trauma, child labor, and family violence: Life adversities and PTSD in a sample of school children in Kabul. *Journal of Traumatic Stress*, *22*(3), 163–171. https://doi.org/10.1002/jts.20415

Cefai, C., Camilleri, L., Cooper, P., & Said, L. (2011). The structure and use of the teacher and parent Maltese strengths and difficulties questionnaire. Retrieved from https://www.um.edu.mt/library/oar//handle/123456789/6089

Costa, S., Cuzzocrea, F., Gugliandolo, M. C., & Larcan, R. (2016). Associations Between Parental Psychological Control and Autonomy Support, and Psychological Outcomes in Adolescents: The Mediating Role of Need Satisfaction and Need Frustration. *Child Indicators Research*, *9*(4), 1059–1076. https://doi.org/10.1007/s12187-015-9353-z

Deci, E. L., & Ryan, R. M. (2000). The 'What' and 'Why' of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227–268.

Dubow, E. F., Boxer, P., Huesmann, L. R., Shikaki, K., Landau, S., Gvirsman, S. D., & Ginges, J. (2010). Exposure to conflict and violence across contexts: relations to adjustment among Palestinian children. *Journal Of Clinical Child And Adolescent Psychology: The Official Journal For The Society Of Clinical Child And Adolescent Psychology, American Psychological Association, Division 53*, *39*(1), 103–116. https://doi.org/10.1080/15374410903401153

Ehntholt, K. A., & Yule, W. (2006). Practitioner Review: Assessment and treatment of refugee children and adolescents who have experienced war-related trauma. *Journal*

of Child Psychology and Psychiatry, *47*(12), 1197–1210. https://doi.org/10.1111/j.1469-7610.2006.01638.x

Elbedour, S., Onwuegbuzie, A. J., Ghannam, J., Whitcome, J. A., & Hein, F. A. (2007). Post-traumatic stress disorder, depression, and anxiety among Gaza Strip adolescents in the wake of the second Uprising (Intifada). *Child Abuse & Neglect*, *31*(7), 719–729. https://doi.org/10.1016/j.chiabu.2005.09.006

Galea, S., Ahern, J., Resnick, H., Kilpatrick, D., Bucuvalas, M., Gold, J., & Vlahov, D. (2002). Psychological Sequelae of the September 11 Terrorist Attacks in New York City. *New England Journal of Medicine*, *346*(13), 982–987. https://doi.org/10.1056/NEJMsa013404

Giacaman, R., Shannon, H. S., Saab, H., Arya, N., & Boyce, W. (2007). Individual and collective exposure to political violence: Palestinian adolescents coping with conflict. *The European Journal of Public Health*, *17*(4), 361–368. https://doi.org/10.1093/eurpub/ckl260

Gifford-Smith, M. E., & Brownell, C. A. (2003). Childhood peer relationships: social acceptance, friendships, and peer networks. *Journal of School Psychology*, *41*(4), 235–284. https://doi.org/10.1016/S0022-4405(03)00048-7

Goodman, R., Meltzer, H., & Bailey, V. (1998). The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version. *European Child & Adolescent Psychiatry*, *7*(3), 125–130. https://doi.org/10.1007/s007870050057

Greven, C., Chamorro-Premuzic, T., Arteche, A., & Furnham, A. (2008). A hierarchical integration of dispositional determinants of general health in students: The Big Five, trait Emotional Intelligence and Humour Styles. *Personality and Individual Differences*, *44*(7), 1562–1573. https://doi.org/10.1016/j.paid.2008.01.012

Gugliandolo, M. C., Costa, S., Cuzzocrea, F., & Larcan, R. (2014). Trait Emotional Intelligence as Mediator Between Psychological Control and Behaviour Problems. *Journal of Child and Family Studies*, 1–11. https://doi.org/10.1007/s10826-014-0032-3

Gugliandolo, M. C., Costa, S., Cuzzocrea, F., Larcan, R., & Petrides, K. V. (2015). Trait emotional intelligence and behavioral problems among adolescents: A cross-informant design. *Personality and Individual Differences*, *74*, 16–21. https://doi.org/10.1016/j.paid.2014.09.032

Hein, F. A., Qouta, S., Thabet, A., & el Sarraj, E. (1993). Trauma and mental health of children in Gaza. *BMJ : British Medical Journal*, *306*(6885), 1130–1131.

Jordans, M. J. D., Pigott, H., & Tol, W. A. (2016). Interventions for Children Affected by Armed Conflict: a Systematic Review of Mental Health and Psychosocial Support in Low- and Middle-Income Countries. *Current Psychiatry Reports*, *18*(1), 1–15. https://doi.org/10.1007/s11920-015-0648-z

Keresteš, G. (2006). Children's aggressive and prosocial behavior in relation to war exposure: Testing the role of perceived parenting and child's gender. *International Journal of Behavioral Development*, *30*(3), 227–239. https://doi.org/10.1177/0165025406066756

Khamis, V. (2005). Post-traumatic stress disorder among school age Palestinian children. *Child Abuse & Neglect*, *29*(1), 81–95. https://doi.org/10.1016/j.chiabu.2004.06.013

Khamis, V. (2012). Posttraumatic stress and worry as mediators and moderators between political stressors and emotional and behavioral disorders in Palestinian children. *International Journal of Psychology*, *47*(2), 133–141. https://doi.org/10.1080/00207594.2011.598524

Khamis, V. (2015). Coping with war trauma and psychological distress among school-age Palestinian children. *American Journal of Orthopsychiatry*, *85*(1), 72–79. https://doi.org/10.1037/ort0000039

Kira, I., Aboumediene, S., Ashby, J., Odenat, L., Mohanesh, J., & Alamia, H. (2013). The dynamics of posttraumatic growth across different trauma types in a Palestinian sample. [References]. *Journal of Loss and Trauma*, *18*(2), 120–139. http://dx.doi.org/10.1080/15325024.2012.679129

Kolltveit, S., Lange-Nielsen, I. I., Thabet, A. A. M., Dyregrov, A., Pallesen, S., Johnsen, T. B., & Laberg, J. C. (2012). Risk factors for PTSD, anxiety, and depression among adolescents in gaza. *Journal of Traumatic Stress*, *25*(2), 164–170. https://doi.org/10.1002/jts.21680

Kuwert, P., Spitzer, C., Träder, A., Freyberger, H. J., & Ermann, M. (2007). Sixty years later: post-traumatic stress symptoms and current psychopathology in former German children of World War II. *International Psychogeriatrics*, *19*(05), 955–961. https://doi.org/10.1017/S104161020600442X

Laible, D. J., & Carlo, G. (2004). The Differential Relations of Maternal and Paternal Support and Control to Adolescent Social Competence, Self-Worth, and Sympathy. *Journal of Adolescent Research*, *19*(6), 759–782. https://doi.org/10.1177/0743558403260094

Llosa, A. E., Casas, G., Thomas, H., Mairal, A., Grais, R. F., & Moro, M.-R. (2012). Short and longer-term psychological consequences of Operation Cast Lead: documentation from a mental health program in the Gaza Strip. *Conflict and Health*, *6*(1), 8. https://doi.org/10.1186/1752-1505-6-8

Loukas, A., Paulos, S. K., & Robinson, S. (2005). Early Adolescent Social and Overt Aggression: Examining the Roles of Social Anxiety and Maternal Psychological

Control. *Journal of Youth and Adolescence*, *34*(4), 335–345. https://doi.org/10.1007/s10964-005-5757-2

Margolin, G., & Vickerman, K. A. (2007). Post-traumatic Stress in Children and Adolescents Exposed to Family Violence: I. Overview and Issues. *Professional Psychology, Research and Practice*, *38*(6), 613–619. https://doi.org/10.1037/0735-7028.38.6.613

Mavroveli, S., Petrides, K. V., Rieffe, C., & Bakker, F. (2007). Trait emotional intelligence, psychological well-being and peer-rated social competence in adolescence. *British Journal of Developmental Psychology*, *25*(2), 263–275. https://doi.org/10.1348/026151006X118577

Mavroveli, S., Petrides, K. V., Sangareau, Y., & Furnham, A. (2009). Exploring the relationships between trait emotional intelligence and objective socio-emotional outcomes in childhood. *British Journal of Educational Psychology*, *79*(2), 259–272. https://doi.org/10.1348/000709908X368848

Mavroveli, S., & Sánchez-Ruiz, M. J. (2011). Trait emotional intelligence influences on academic achievement and school behaviour. *British Journal of Educational Psychology*, *81*(1), 112–134. https://doi.org/10.1348/2044-8279.002009

McLaughlin, K. A., Koenen, K. C., Hill, E. D., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2013). Trauma Exposure and Posttraumatic Stress Disorder in a National Sample of Adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, *52*(8), 815-830.e14. https://doi.org/10.1016/j.jaac.2013.05.011

Mikolajczak, M., & Luminet, O. (2008). Trait emotional intelligence and the cognitive appraisal of stressful events: An exploratory study. *Personality and Individual Differences*, *44*(7), 1445–1453. https://doi.org/10.1016/j.paid.2007.12.012

Mikolajczak, M., Nelis, D., Hansenne, M., & Quoidbach, J. (2008). If you can regulate sadness, you can probably regulate shame: Associations between trait emotional

intelligence, emotion regulation and coping efficiency across discrete emotions. *Personality and Individual Differences*, *44*(6), 1356–1368. https://doi.org/10.1016/j.paid.2007.12.004

Mikolajczak, M., Petrides, K. V., & Hurry, J. (2009). Adolescents choosing self-harm as an emotion regulation strategy: The protective role of trait emotional intelligence. *British Journal of Clinical Psychology*, *48*(2), 181–193. https://doi.org/10.1348/014466508X386027

Monson, C., Fredman, S., Macdonald, A., Pukay-Martin, N., Resick, P., & Schnurr, P. (2012). Effect of cognitive-behavioral couple therapy for PTSD: A randomized controlled trial. [References]. *Journal of the American Medical Association*, *308*(7), 700–709. http://dx.doi.org/10.1001/jama.2012.9307

Myers-Walls, J. A. (2004). Children as Victims of War and Terrorism. *Journal of Aggression, Maltreatment & Trauma*, *8*(1–2), 41–62. https://doi.org/10.1300/J146v08n01_02

Palestinian Health Information Center. (2012). The Last report about the Israeli aggression against citizens in Gaza Strip started started on 14/11/2012. Ministry of Health, Gaza - Palestine.

Palosaari, E., Punamäki, R.-L., Diab, M., & Qouta, S. (2013). Posttraumatic cognitions and posttraumatic stress symptoms among war-affected children: a cross-lagged analysis. *Journal Of Abnormal Psychology*, *122*(3), 656–661. https://doi.org/10.1037/a0033875

Pat-Horenczyk, R., Qasrawi, R., Lesack, R., Haj-Yahia, M. M., Peled, O., Shaheen, M., … Abdeen, Z. (2009). Posttraumatic symptoms, functional impairment, and coping among adolescents on both sides of the Israeli-Palestinian conflict: a cross-cultural approach. *Applied Psychology: An International Review*, *58*(4), 688–708. http://dx.doi.org.ezproxy.kingston.ac.uk/10.1111/j.1464-0597.2008.00372.x

Peltonen, K., Qouta, S., Sarraj, E. E., & Punamäki, R.-L. (2010). Military trauma and social development: The moderating and mediating roles of peer and sibling relations in mental health. *International Journal of Behavioral Development*, *34*(6), 554–563. https://doi.org/10.1177/0165025410368943

Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology*, *98*(2), 273–289. https://doi.org/10.1348/000712606X120618

Petrides, K. V., Sangareau, Y., Furnham, A., & Frederickson, N. (2006). Trait Emotional Intelligence and Children's Peer Relations at School. *Social Development*, *15*(3), 537–547. https://doi.org/10.1111/j.1467-9507.2006.00355.x

Qouta, S., El-Sarraj, E., & Punamäki, R.-L. (2001). Mental flexibility as resiliency factor among children exposed to political violence. *International Journal of Psychology*, *36*(1), 1–7. https://doi.org/10.1080/00207590042000010

Qouta, S., Punamäki, R.-L., & El Sarraj, E. (2003). Prevalence and determinants of PTSD among Palestinian children exposed to military violence. *European Child & Adolescent Psychiatry*, *12*(6), 265–272. https://doi.org/10.1007/s00787-003-0328-0

Rogers, K. N., Buchanan, C. M., & Winchell, M. E. (2003). Psychological Control During Early Adolescence: Links to Adjustment in Differing Parent/Adolescent Dyads. *The Journal of Early Adolescence*, *23*(4), 349–383. https://doi.org/10.1177/0272431603258344

Russo, P. M., Mancini, G., Trombini, E., Baldaro, B., Mavroveli, S., & Petrides, K. V. (2012). Trait Emotional Intelligence and the Big Five A study on Italian Children and Preadolescents. *Journal of Psychoeducational Assessment*, *30*(3), 274–283. https://doi.org/10.1177/0734282911426412

Salloum, A., Stover, C. S., Swaidan, V. R., & Storch, E. A. (2014). Parent and Child PTSD and Parent Depression in Relation to Parenting Stress Among Trauma-Exposed Children. *Journal of Child and Family Studies*, 1–10. https://doi.org/10.1007/s10826-014-9928-1

Savin, N. ., & White, K. (1977). The Durbin-Watson Test for Serial Correlation with Extreme Sample Size or Many Regressors, *Econometrica*, 1994.

Shaw, J. A. (2003). Children Exposed to War/Terrorism. *Clinical Child and Family Psychology Review*, *6*(4), 237–246. https://doi.org/10.1023/B:CCFP.0000006291.10180.bd

Sheldon, K. M., Ryan, R., & Reis, H. T. (1996). What Makes for a Good Day? Competence and Autonomy in the Day and in the Person. *Personality and Social Psychology Bulletin*, *22*(12), 1270–1279. https://doi.org/10.1177/01461672962212007

Slone, M., & Shechner, T. (2011). Adolescents Exposed to 7 Years of Political Violence: Differential Relations Between Exposure and Its Impact for Jewish and Arab Israelis. *Child Indicators Research*, *4*(3), 529–545. https://doi.org/10.1007/s12187-011-9110-x

Smith, P., Perrin, S., Yule, W., Hacam, B., & Stuvland, R. (2002). War Exposure Among Children from Bosnia-Hercegovina: Psychological Adjustment in a Community Sample. *Journal of Traumatic Stress*, *15*(2), 147–156. https://doi.org/10.1023/A:1014812209051

Smith, P., Perrin, S., Yule, W., & Rabe-Hesketh, S. (2001). War Exposure and Maternal Reactions in the Psychological Adjustment of Children from Bosnia-Hercegovina. *Journal of Child Psychology and Psychiatry*, *42*(3), 395–404. https://doi.org/10.1111/1469-7610.00732

Soenens, B., Park, S.-Y., Vansteenkiste, M., & Mouratidis, A. (2012). Perceived parental psychological control and adolescent depressive experiences: A cross-cultural study

with Belgian and South-Korean adolescents. *Journal of Adolescence*, *35*(2), 261–272. https://doi.org/10.1016/j.adolescence.2011.05.001

Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: Proposing new insights on the basis of self-determination theory. *Developmental Review*, *30*(1), 74–99. https://doi.org/10.1016/j.dr.2009.11.001

Sriskandarajah, V., Neuner, F., & Catani, C. (2015). Parental care protects traumatized Sri Lankan children from internalizing behavior problems. *BMC Psychiatry*, *15*, 203. https://doi.org/10.1186/s12888-015-0583-x

Thabet, A. A., Abu Tawahina, A., El Sarraj, E., & Vostanis, P. (2008). Exposure to war trauma and PTSD among parents and children in the Gaza strip. *European Child & Adolescent Psychiatry*, *17*(4), 191–199. https://doi.org/10.1007/s00787-007-0653-9

Thabet, A. A., Ibraheem, A. N., Shivram, R., Winter, E. A., & Vostanis, P. (2009). Parenting Support and PTSD in Children of a War Zone. *International Journal of Social Psychiatry*, *55*(3), 226–237. https://doi.org/10.1177/0020764008096100

Thabet, A. A. M., Tawahina, A. A., El Sarraj, E., & Vostanis, P. (2007). Children exposed to political conflict: implications for health policy. *Harvard Health Policy Review*, *8*(2), 143–153.

Thabet, A. M., Tawahina, A. A., Sarraj, E. E., Henely, D., Pelleick, H., & Vostanis, P. (2013). Comorbidity of post traumatic stress disorder, attention deficit with hyperactivity, conduct, and oppositional defiant disorder in Palestinian children affected by war on Gaza. *Health*, *05*(06), 994–1002. https://doi.org/10.4236/health.2013.56132

Thabet, A., & Vostanis, P. (2015). Impact of Trauma on Palestinian Children's and the Role of Coping Strategies. *British Journal of Medicine and Medical Research*, *5*(3), 330–340. https://doi.org/10.9734/BJMMR/2015/9578

Tol, W. A., Komproe, I. H., Jordans, M. J., Ndayisaba, A., Ntamutumba, P., Sipsma, H., … de Jong, J. T. (2014). School-based mental health intervention for children in war-affected Burundi: a cluster randomized trial. *BMC Medicine*, *12*, 56. https://doi.org/10.1186/1741-7015-12-56

UNICEF. (2012). Impact of hostilities on children in Gaza: rapid psychological assessment.

Ursano, R. J. (2002). Editorial: Post-traumatic stress disorder. *The New England Journal of Medicine*, *346*(2), 130–132.

Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: an historical overview, emerging trends, and future directions. In *The Decade Ahead: Theoretical Perspectives on Motivation and Achievement* (Vol. 16 Part A, pp. 105–165). Emerald Group Publishing Limited. https://doi.org/10.1108/S0749-7423(2010)000016A007

Vansteenkiste, M., Zhou, M., Lens, W., & Soenens, B. (2005). Experiences of Autonomy and Control Among Chinese Learners: Vitalizing or Immobilizing? *Journal of Educational Psychology August 2005*, *97*(3), 468–483.

Walsh, F. (2007). Traumatic Loss and Major Disasters: Strengthening Family and Community Resilience. *Family Process*, *46*(2), 207–227. https://doi.org/10.1111/j.1545-5300.2007.00205.x

Wang, Q., Pomerantz, E. M., & Chen, H. (2007). The Role of Parents' Control in Early Adolescents' Psychological Functioning: A Longitudinal Investigation in the United States and China. *Child Development*, *78*(5), 1592–1610. https://doi.org/10.1111/j.1467-8624.2007.01085.x

Table 1. *Frequency of demographic variables*

	N	%
Age		
12 or less	184	17.9
13-14	485	47.1
15 or more	344	33.4
Gender		
Male	496	48.2
Female	533	51.8
Family member No.		
Less than 5	31	3.0
5-8	446	43.3
More than 8	476	46.2
Family order		
The first	199	19.3
The middle	664	64.5
The last	160	15.5
Type of residence		
City	692	67.2
Refugee camp	132	12.8
Village	203	19.7
Father education		
None	190	18.4
School education	543	52.7
Higher education	280	27.2
Father job		
Unemployed	469	45.5
employed	548	53.2
Father		
Alive	989	96.0
Dead	37	3.6
Mother education		
None	176	17.1
School education	624	60.6
Higher education	219	21.3
Mother job		
Unemployed	948	92.0
Employed	73	7.1
Mother		
Alive	998	96.9
Dead	25	2.4
Family income		
Less than US$500	770	74.7
$500 - $1,000	172	16.7
More than $1000	45	4.4
Citizenship		
Refugee	335	32.5
Not refugee	690	67.0

Table 2. *Means and standard deviations of exposure to war-traumatic events, PTSD, depression symptoms and mediating variables by gender*

	Male		Female		
	M	SD	M	SD	*p*
War-traumatic events	10.12	4.66	8.20	4.78	< .001
Trait Emotional Intelligence	63.40	11.92	65.03	12.37	.03
Prosocial behaviour	6.37	2.41	7.43	2.13	< .001
Father support	13.04	5.34	14.70	4.38	< .001
Father psychological control	8.2	3.79	6.17	3.85	< .001
Mother support	13.87	5.47	15.13	4.81	< .001
Mother psychological control	7.93	3.99	6.02	3.44	< .001
PTSD	45.18	24.07	49.03	23.31	< .01
Depression	6.90	3.77	5.78	4.11	< .001

Table 3. *Pearson correlation between war-traumatic events, trait EI, parents' support, parents' psychological control, prosocial behaviour, PTSD, and depression*

	1	2	3	4	5	6	7	8	9
1. War-traumatic events	-								
2. Trait EI	-.078*	-							
3. Prosocial scale	-.044	.226**	-						
4. Father support	-.061	.258**	.272**	-					
5. Father psychological control	.205**	-.209**	-.155**	.062	-				
6. Mother support	-.003	.252**	.286**	.725**	-.032	-			
7. Mother psychological control	.133**	-.197**	-.174**	.031	.719**	.049	-		
8. PTSD	.354**	-.284**	-.023	-.023	.244**	.018	.195**	-	
9. Depression	.194**	-.434**	-.281**	-.337**	.255**	-.352**	.254**	.301**	-

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 4. *Hierarchical regression analysis for predicting PTSD and depression symptoms by war traumatic events (N=956)*

	Step 1 (trauma predicted PTSD and Depression)		**Step 2 (trauma predicted mediators)**		**Step 3 (trauma and mediators predicted PTSD and Depression)**			
					PTSD		**Depression**	
	B [95% CI]	β	B [95% CI]	β	B [95% CI]	β	B [95% CI]	β
PTSD	1.74 [1.46, 2.03]***	.354						
Depression	.16 [.11, .21]***	.194						
Trait EI			-.196 [-.351, -.041]*	- .078	-.51 [-.63, -.40] ***	-8.45	-.10 [-.12, -.08] ***	-.301
Prosocial behaviour			-.021 [-.051, .009]	-.044	.36 [-.24, .97]	1.16	-.17 [-.27, -.07] **	-.100
Father support			-.062 [-.125, .001]	-.061	-.19 [-.58, .20]	-.963	-.08 [-.15, -.02] **	-.105
Mother support			-.003 [-.069, .063]	-.003	.32 [-.04, .70]	1.72	-.13 [-.20, -.07] ***	-.168
Father psychological control			.168 [.119, .218]***	.205	.92 [.44, 1.40] **	3.76	.09 [.01, .17]*	.092
Mother psychological control			.105 [.057, .154]***	.133	.26 [-.23, .75]	1.04	.12 [.04, .02] **	.120
Overall war trauma					1.67 [1.39, 1.95] ***	.341	.11 [.06, .15] ***	.132
Gender †					9.96 [7.21, 12.80] ***	.209	.25 [-.20, .71]	.032
Father's job (unemployed)					1.29 [-1.35, 3.93]	.027	-.16 [-.58, .25]	-.21
R^2					.262‡		.336‡	

Adjusted R^2	.255	.329

*** $p < .001$, ** $p < .01$, * $p < .05$.

† Girls reported significantly higher level of PTSD (total score) while boys reported significantly higher level of depression symptoms.

‡ R^2 change: PTSD: F(6, 943) = 22.93, p<0.001; depression: F(6, 943) = 65.89, p<0.001.

Table 5. *Logistic regression: Prediction of PTSD diagnosis according to DSM-V by war traumatic events*

	Step 1 (trauma predicted PTSD diagnosis)	**Step 2 (trauma predicted mediators)**	**Step 3 (trauma and mediators predicted PTSD diagnosis)**
	Exp(B) [95% CI]	Exp(B) [95% CI]	Exp(B) [95% CI]
PTSD diagnosis	1.10 [1.08, 1.14]***		
Trait EI		.954 [.929, .979]***	.488 [.371, .644] ***
Prosocial behaviour		.979 [.954, 1.005]	1.15 [.868, 1.53]
Father support		.981 [.936, 1.02]	1.19 [.650, 2.18]
Mother support		1.02 [.978, 1.07]	1.37 [.754, 2.51]
Father psychological control		1.07 [1.04, 1.09]***	1.34 [.920, 1.96]
Mother psychological control		1.05 [1.02, 1.07]***	1.42 [.979, 2.08]
Overall war trauma			1.10 [1.07, 1.13] ***
Cox & Snell R^2			.110
Nagelkerke R^2			.147

*** $p < .001$, ** $p < .01$, * $p < .05$

The relationship between Trait emotional intelligence, prosocial behaviour, parental support and parental psychological control and PTSD and depression

Highlights:

- Boys reported more exposure to war traumatic events than girls.
- The prevalence of PTSD diagnosis is 53.5 %.
- There is a negative relationship between trait EI and PTSD.