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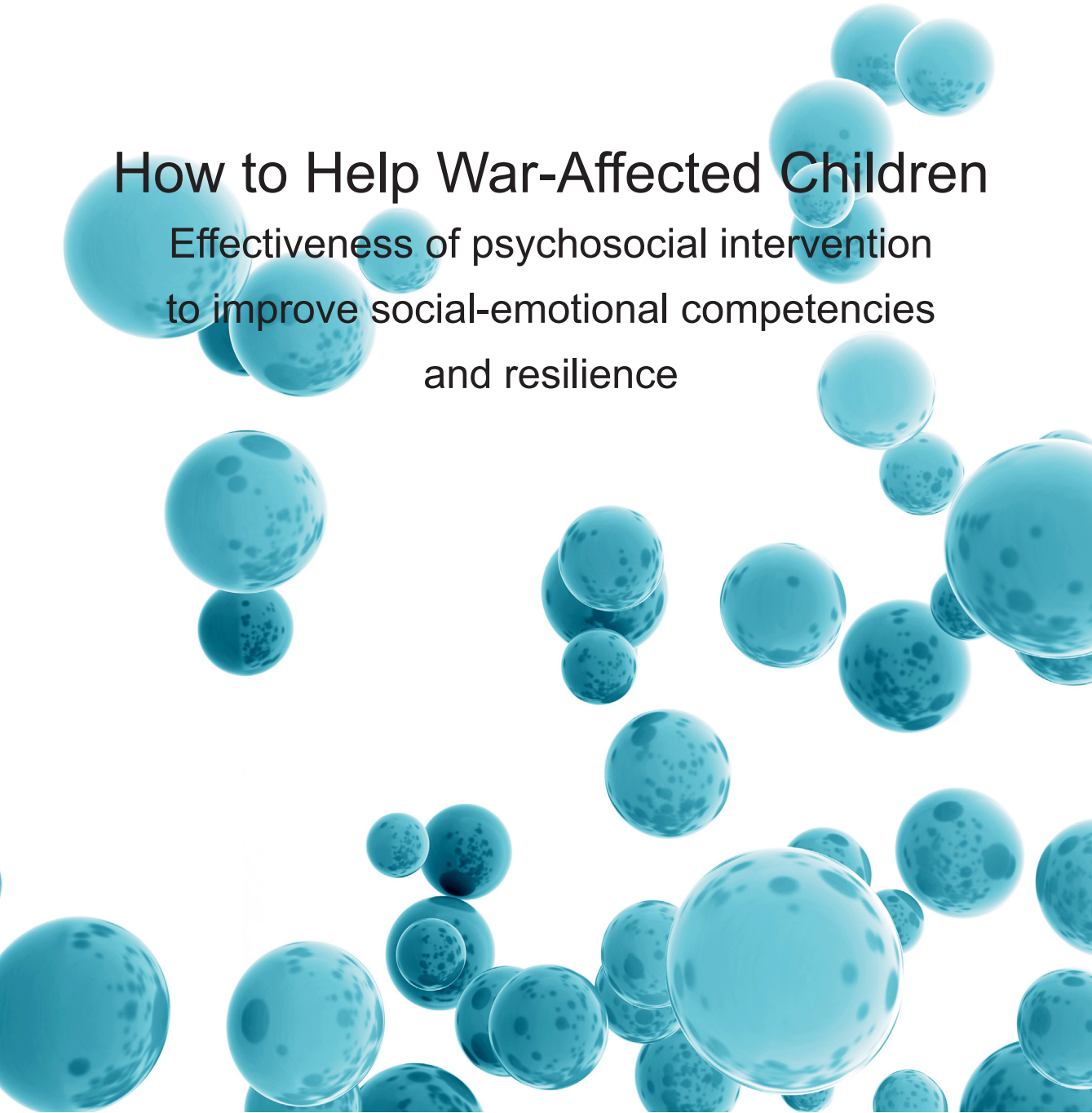
MARWAN DIAB

How to Help War-Affected Children

Effectiveness of psychosocial intervention to improve social-emotional competencies and resilience



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ACADEMIC DISSERTATION
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UNIVERSITY OF TAMPERE

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The Palestinian children of Gaza are living through a time when freedom seems more and more distant, yet they continue to learn and hope for a more just future. In completing this dissertation, we witnessed children who were subjected to violence and the fear of violence. We witnessed children being denied the security of family and home and the constant threat that everything in their environment might be destroyed. We witnessed children playing and being kind to their friends and family members. We saw children choosing to study and provide help to others. We saw hope. We dedicate this work to the courageous and loving Palestinian children of Gaza. May we work together for peace and justice.

Why have you dragged your dirty tanks to my home?
Why have you flown all your jet fighters and drones?
Why have you stationed your vehicles with bombs smart?
Why have you directed your artillery at my heart?
I am a Palestinian child like other children in the world,
I love my country in the full meaning of the word.
Is it a crime to love my lovely Palestine?
Is it a crime for me to have a dream so divine?
You shelled my house with your artillery.
You destroyed my home with your military.
You killed my Mum,
You killed my Dad,
You killed my siblings,
You killed my life, but not my dream of living free in my homeland.
You want to teach me how to hate,
But, I will teach how to love and abate
the agony of my friend and my mate
You want to teach me about revenge and to retaliate
Yet, I will teach how to forgive, and how to tolerate
Yet, I will grow in courage, wisdom, love and peace
I cling to this and will make my heart fill with ease
It is my right to grow up in my land and to prosper
It is my right to tell stories of love and to whisper
It is my right to play, to sing, and gladly dance
It is my right to live and my country to enhance
Take away your tanks, your artillery and your drones.
Let me with flowers my house happily adorns
Let my friends, their bikes gently climb and quickly ride.
Let us dream our dreams and grow in resilience
Let me live today, tomorrow and every night and day
Let me believe that I have the right to sing, the right to say
Tomorrow will come the song, tomorrow will be a better day!

Akram Sobhi Habeeb, Palestine

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Gaza Strip, Palestine, 30.11.2018
Marwan Diab

ABSTRACT

Background. Research is ample about the destructive effects of armed conflict and violence on the mental health of children. After war trauma, children may face difficulty controlling their feelings, may withdraw from social contacts, and experience concentration problems at school and feel lonely and isolated. Therefore, war-affected children need all possible help to assist them in overcoming their difficulties.

Purpose. Interventions with children in settings of armed conflict aim at reducing psychopathology and aiding healthy development, protective factors, and resilience to overcome traumatic war experiences. As a result, this study investigated the effectiveness of psychosocial interventions in enhancing social relations and the resilience of war-affected children, and the protective role of emotion regulation in supporting their mental health.

Method. After the Gaza War (2008–2009), children were randomly selected from schools in Gaza-Palestine to join the psychosocial intervention which was designed to prevent the consequences of trauma. The sample for (article I) and (article II) consisted of 482 children of 10–13-years, who were allocated to the intervention group or to the control-waiting list group. The assessments were measured at baseline (T1), at postintervention two months later (T2), and follow-up six months postintervention (T3). The sample for (Article III) was 482 Palestinian children, who represent the baseline group of (Article I & Article II).

In *article I*, we examined the effectiveness of the Teaching Recovery Technique, TRT, psychosocial intervention in enhancing good social relations and investigated whether these enhanced social relations would mediate the intervention effect on mental health in Palestinian children. The children reported the quality of peer (friendship and loneliness) and sibling (intimacy, warmth, conflict, and rivalry) relations, and posttraumatic stress, depressive and psychological distress symptoms, as well as psychosocial well-being.

In *Article II*, we investigated the effectiveness of psychosocial intervention in strengthening resilience among war-affected children and the moderating role of family in affecting a child's resilience. Children reported positive indicators of their mental health (prosocial behaviour and psychosocial well-being). Mothers reported about their willingness to serve as an attachment figure, and the child reported about the family atmosphere. In *Article III*, we first tested the protective (moderator) function of different Emotion Regulation (ER) strategies among Palestinian children as well as the direct associations between ER and multiple mental health outcomes. Second, we tested whether the protective function of ER differed between boys and girls or if there were gender differences in the direct associations between ER strategies and mental health. ER was

assessed by the Emotion Regulation Questionnaire and mental health by post-traumatic stress (Children's Impact Event Scale), depressive, and psychological distress (Strengths and Difficulties Questionnaire) symptoms, and by psychosocial well-being (Mental Health Continuum-Short Form). War trauma involved 42 events.

Results. The results for *Article I* showed gender-specific TRT intervention effects: Loneliness in peer relations reduced among boys and sibling rivalry reduced among girls. The TRT prevented the increase in sibling conflict that happened in the control group. The mediating hypothesis was partially substantiated for improved peer relations, and beneficial changes in sibling relations were generally associated with improved mental health.

The results for *Article II* showed that the intervention was not associated with a statistically significant rise in the level of wellbeing or prosocial behaviour among children. In addition, the intervention outcome was not moderated by the mother's acceptance and willingness to serve as an attachment figure, nor by family atmosphere. The results for *Article III* showed, first, that none of the ER strategies could protect a child's mental health from negative impact of war trauma, but self-focused ER was associated with low depressive symptoms, and other-facilitated ER with high psychological well-being. However, controlling of emotions formed a comprehensive risk for children's mental health. Second, gender differences were found in the protective role of ER, as self-focused and distractive ER formed a vulnerability among boys.

Conclusion. The study results and discussion of literature on psychosocial intervention for war-affected areas demonstrate the vital role of social resources, resilience factors, and emotion regulation in promoting the mental health and development of war-affected children.

TIIVISTELMÄ

Sotakokemuksilla tiedetään olevan vakavia seurauksia lasten mielenterveyteen. Siksi on ensiarvoisen tärkeää auttaa heitä selviytymään sodan aiheuttamista traumaattisista kokemuksista. Psykososiaaliset interventiot pyrkivät ennaltaehkäisemään lasten psykopatologisia oireita ja häiriöitä, sekä tukemaan heidän tervettä kehitystään, lisäämään psyykkistä hyvinvointia edistäviä ja suojelevia tekijöitä ja tukemaan heidän psyykkistä kestävyyttään.

Väitöskirjatutkimus analysoi Teaching Recovery Techniques (TRT)-psykososiaalisen intervention vaikuttavuutta parantaa sotakokemuksille altistuneiden lasten sosiaalisia suhteita ja lisätä heidän sosiaalis-emotionaalisia voimavaroja ja psyykkistä kestävyyttä. Lisäksi tutkitaan millaiset tunteiden säätelykeinot ovat tehokkaita suojelemaan lasten mielenterveyttä sotatrauman kielteisiltä seurauksilta.

Tutkimus suoritettiin Palestiinassa, Gazan kaistaleella vuoden 2008–2009 sodan jälkeen. Tutkimukseen osallistui 482 palestiinalaislasta, iältään 10–13-vuotiasta tyttöä ja poikaa, joista puolet satunnaistettiin TRT interventioon ja puolet toimivat kontrolliryhmänä (joka sai intervention myöhemmin). TRT intervention ryhmät kokoontuivat koulutyön jälkeen ja interventioihin erikoistuneet psykologit toimivat ohjaajina. Intervention kesto oli kaksi kuukautta, ja siihen sisältyi kaksi kahdentunnin viikottaista tapaamiskertaa. TRT interventio perustuu kognitiiviseen käyttäytymisterapiaan ja soveltaa sen tehokkaita parantamiselementtejä. Tutkimuksen mittauspisteet olivat ennen interventiota (T1), intervention jälkeen (T2), sekä kuusi kuukautta intervention loputtua (T3). Lasten mielenterveys käsitteellistettiin tasapainona psyykkisten oireiden ja psykososiaalisten vahvuuksien välillä. Lapset raportoivat jälkitraumaattisia stressioireita (PTSD), depressio-, ahdistus- ja aggressio-oireita sekä psykososiaalisia voimavaroja. Resilienssiä mitattiin prososiaalisten vahvuuksien ja voimavarojen määrällä. Lapset raportoivat kokemiaan sotatraumoja, joita olivat esimerkiksi perheen jäsenten kuolema ja loukkaantuminen, kauheuksien todistaminen, kodin ja ympäristön tuho ja kuoleman pelko. Lasten sosiaalisia suhteita kartoitettiin toveri- ja ystäväsuhteiden, sekä sisarussuhteiden laadun avulla. Sisaruutta kuvaavat esimerkiksi suhteiden läheisyys, kilpailu ja mustasukkaisuus sekä konfliktit. Emotionaalista säätelyä mitattiin lasten reaktioilla tunteita herättävissä tilanteissa, kuten yksinjääminen, menetykset ja turhautumiset.

Tutkimustulokset ovat osatutkimusten mukaan seuraavat. *Ensimmäisessä osatutkimuksessa* (Artikkeli I) tutkittiin psykososiaalisen intervention, TRT, vaikuttavuutta lisätä lasten tukea-antavia ja läheisiä sosiaalisia suhteita, erityisesti toveri-, ystävyys- ja sisarussuhteita. Edelleen tutkittiin selittävätkö (välittävä rooli) paremmat sosiaaliset suhteet TRT:n yhteyttä parantuneeseen mielenterveyteen, osoitettuna PTSD, depressio ja psykologisten oireiden vähentymisenä ja psykososiaalisten voimavarojen lisääntymisenä. Tulosten mu-

kaan TRT intervention vaikutukset erosivat tytöillä ja pojilla: poikien yksinäisyys laski interventioryhmässä ja lisääntyi kontrolliryhmässä, kun taas tytöillä TRT ei ollut yhteydessä toverisuhteisiin. Kontrolliryhmän tyttöjen sisaruuskilpailu lisääntyi ja säilyi samana TRT interventioryhmässä. Oletusten vastaisesti TRT ei ollut kokonaisvaltaisen vaikuttava lasten sosiaalisten suhteiden parantajana. Parantuneet toverisuhteet välittävät osittain intervention myönteisiä vaikutuksia lasten mielenterveyteen. Johtopäätöksenä voidaan todeta sosiaalisten suhteiden olevan tärkeitä traumoja kokeneiden lasten auttamisessa, kun huomioidaan tyttöjen ja poikien erot.

Toisessa osatutkimuksessa (Artikkeli II) tutkittiin psykososiaalisen TRT intervention vaikuttavuutta lisätä lasten resilienssiä, eli psykososiaalisia voivaroja ja psyykkistä taipuisuutta ja kestävyyttä. Resilienssin tutkiminen koettiin tärkeäksi, sillä sodan olosuhteissa elävien lasten myönteisiä kokemuksia tulisi lisätä tukemaan heidän hyvinvointiaan. Osatutkimuksessa analysoitiin lisäksi perhesuhteiden, erityisesti vanhempien ja lasten välisen kiintymyssuhteen roolia resilienssin lisäämisessä intervention kuluessa. Tulokset osoittivat, että TRT ei ollut vaikuttava lasten resilienssin suhteen, eli interventioon osallistuneilla lapsilla ei tapahtunut tilastollisesti merkittävää lisääntymistä prososiaalisen käyttäytymisen tai psykososiaalisten voimavarojen suhteen, kun heidän altistumisensa sotatraumoille kontrolloitiin. Myöskään vanhempien ja lasten kiintymyssuhteella ei ollut tilastollisesti merkitsevää roolia lasten resilienssin tason tai interventioon liittyvän muutoksen suhteen. Johtopäätöksenä on, että TRT ei ole tarpeeksi vaikuttava interventio myönteisen kehityksen ja sotatraumoja kokeneiden lasten kestävyyden lujittamisessa.

Kolmannessa osatutkimuksessa (Artikkeli III) tutkittiin millaiset emootioiden säätelykeinot olisivat tehokkaita suojelemaan lasten mielenterveyttä traumaattisten sotakokemusten kielteisiltä seurauksilta. Lapset voivat säädellä sotaan liittyviä tunteitaan, kuten vihaa, surua ja pelkoa, mm. suuntaamalla tarkkaavuutta toisaalle, kontrolloimalla ja tukahduttamalla tai tukeutumalla toisiin ihmisiin tai omiin voimavaroihin. Tulokset osoittivat, että mikään tunteidensäätelyn keinoista ei pystynyt suojelemaan lasten mielenterveyttä vakavilta sotakokemuksilta. Mutta suora yhteys havaittiin omiin voimavaroihin tukeutumisen ja alhaisten depressiivisyysoireiden välillä, ja toisiin ihmisiin tukeutumisen ja psykososiaalisten voimavarojen välillä. Sen sijaan tunteiden kontrollointi ja tukahduttaminen olivat kokonaisvaltaisesti yhteydessä lasten vakaviin mielenterveyden ongelmiin.

Johtopäätöksenä on että psykososiaalisten interventiomenetelmien sotatraumatisoituneiden lasten auttamisessa tulisi tukea kokonaisvaltaisesti lasten kehitystä, mielenterveyden edistämisen lisäksi. Toisin sanojen sosiaaliset suhteet, tunteiden säätely ja perhesuhteet on huomioitava luonnollisina voimavaroina. Tutkimuksessa pohditaan kriittisesti psykososiaalisten interventioden sopivuutta eri kulttuureissa.

CONTENTS

LIST OF ORIGINAL PUBLICATIONS

The thesis is based on the following original publications, referred to in the text as Article I, Article II, Article, III.

Article I Diab, M., Punamäki, R.-L., Palosaari, E., & Qouta, S. R. (2014). Can Psychosocial Intervention Improve Peer and Sibling Relations Among War-affected Children? Impact and Mediating Analyses in a Randomized Controlled Trial. *Social Development, 23*(2), 215–231. http://doi.org/10.1111/sode.12052

Article II Diab, M., Peltonen, K., Qouta, S. R., Palosaari, E., & Punamäki, R.-L. (2015). Effectiveness of psychosocial intervention enhancing resilience among war-affected children and the moderating role of family factors. *Child Abuse & Neglect, 40*, 24–35. http://doi.org/10.1016/j.chiabu.2014.12.002

Article III Diab, M., Peltonen, K., Qouta, S. R., Palosaari, E. & Punamäki, R.-L. (2017). Can functional emotion regulation protect children's mental health from war trauma? A Palestinian study. *International Journal of Psychology*. https://doi.org/10.1002/ijop.12427

BACKGROUND

1 Introduction

1.1 War Trauma and Military Violence

In several parts of the world, war and political violence are the source of grief, suffering, destruction, and loss of life and they can cause long-term physical and psychological injuries for the survivors. In 2016, the United Nations International Children's Emergency Fund (UNICEF) projected that, worldwide, one in ten children (almost 250 million) live in areas affected by armed conflict. Specifically, the Middle East has been an area of unresolved conflict and ongoing violence for several decades and war-related death tolls have increased dramatically in recent years (Pettersson & Wallensteen, 2015).

In 2015, the United Nations Office for the Coordination of Humanitarian Affairs (UN: OCHA) reported that in the last decade, Palestinian children had been exposed to multiple Israeli military attacks, including the 2008–2009, 2012, and 2014 wars on Gaza, as well as the continual military occupation, siege, and the repeated invasion of Palestinian areas. For example, research reported that years of Israeli occupation have caused the obligatory dislocation of Palestinians, restrained movement by Palestinians and fragmented Palestinian communities (Taraki, 2006), all of which aggravating and prolonging the negative economic, social, and emotional effects of war on children (Betancourt, 2015).

Children living in war-affected areas experience a wide range of traumas: loss, danger, and threat to life. According to DSM-5, trauma is defined as "*exposure to actual or threatened death, serious injury or sexual violence in one or more of four ways: (a) directly experiencing the event; (b) witnessing, in person, the event occurring to others; (c) learning that such an event happened to a close family member or friend; and (d) experiencing repeated or extreme exposure to aversive details of such events*" (APA, 2013).

The context of this study is the Palestinian context after a major war in 2008/2009 and the long-lasting military conflict and siege, where children experience both horrifying traumatic events and chronic hardships and stressors. Terr (1991) described two types of trauma experiences that necessitate specific reactions and coping strategies. Type I trauma refers to a single, unexpected, horrifying and life-risking experience that in the Palestinian context would most likely be seeing death and injury of family and friends, being personally wounded and experiencing destruction of own and other homes. Yet, Type II trauma refers to chronic stress and dangers that are a part of children's daily life. In the Palestinian

context, these are poverty, social injustice and unsafe living conditions. It is reported that Palestinian children continue to witness persistent rocket attacks on civilians and pervasive experiences of loss of life of friends and family members and massive destruction (Office of the United Nations Commissioner for Human Rights, 2009; Palestinian Centre for Human Rights, 2015). Accordingly, to understand how children recover and survive the war trauma and atrocities, we investigated the effectiveness of psychosocial intervention using Teaching Recovery Techniques (TRT) in promoting beneficial social resources and resilience among children. We also examined what kind of emotion regulation can protect children exposed to severe war experiences.

1.1.1 War Experience Among Palestinian Children

Common war trauma experiences among Palestinian children are physical and human losses (e.g., home destructions and death of family members and friends), observing killing, being personally targeted, and failure to escape from the besieged area (Attanayake et al., 2009; Qouta, Punamäki, Miller, & El-Sarraj, 2008; Thabet, El-Buhaisi, & Vostanis, 2014). Ample research reported (Type I) Trauma, where children witness death and violence directed at their relatives or family members, peers, neighbors or the wider community as well as the destruction of their own and others' homes and properties (Attanayake et al., 2009; Qouta, Punamäki, & El Sarraj, 2003; Thabet, Abu Tawahina, El Sarraj, & Vostanis, 2007; Thabet et al., 2014). For example, according to Thabet et al. (2014), 86–89% of Palestinian children reported witnessing shelling, artillery and jetfighters' attacks in the war on Gaza in 2014, resulting in human and material losses. Similarly, during Al Aqsa Intifada, Qouta, Punamäki, & El Sarraj (2005) reported that 97% of children had witnessed shooting, while 30% of boys and girls witnessed the killing of a friend (Thabet et al., 2014).

Children exposed to war trauma often negatively experience adverse socioeconomic conditions, maltreatment, and deprivation. Such experiences may be represented by lack of access to health care facilities, malnutrition, and loss of important ones or parting from family members due to displacement (Khamis, 2012; Reed, Fazel, Jones, Panter-Brick, Stein, 2012; Thabet, Abu Tawahina, El Sarraj, & Vostanis, 2007). As a result, this causes disruption and shattering of child's family and social networks that are fundamental for the child's healthy physical, psychological, and social development (Betancourt & Khan, 2008; Fergus & Zimmerman, 2005). Similarly, research among Afghan, Israeli and Northern Irish families have showed that the war-related daily tension and poverty are extremely stressful for children in addition to the dramatic trauma experience (Cummings et al., 2013; Dubow, Huesmann, & Boxer, 2009; Eggerman & Panter-Brick, 2014). In the same vein, mass displacement of civilian populations, resulted in an increase of poverty with its psychosocial stressors for children in highly stressful experiences. Such experiences contributed to shaking or abolishing social systems, thus dropping the accessibility of social

support and increasing social segregation and loss of meaning in children's daily routine activities (Miller, Omidian, Rasmussen, Yaqubi, & Daudzai, 2008).

1.1.2 Harmful Impact of War on children

Children living in war conditions may feel as though their security is repetitively endangered and they often live in persistent anxiety and fear about the wellbeing of their families and friends (Cummings et al., 2013; Dubow et al., 2010; Landau et al., 2015), and their daily routines may constantly be interrupted (Akbulut-Yuksel, 2009). For instance, children are scared that they are about to lose their home and immediate family members, and sometimes they are anxious if their parent or family member leaves the home (Qouta & El-Sarraj, 2004). In this regard, children's fears are expressed through dependent behavior, e.g. clinging to parents and distressed of being left unaccompanied or anxious of sleeping in the dark (Montgomery & Foldspang, 2005; Peltonen & Punamäki, 2010), and somatization and withdrawal signs, and younger children relapse to the prior periods of growth and clinging to parents (Qouta & El-Sarraj, 2004; Yule, 2002). Similarly, children may exhibit acute symptoms of distress and shock in response to separation from their caregivers (Masten & Narayan, 2012) or are likely to undergo numbness and bereavement for lost people, safety, and possessions (Williams, 2006). In the same vein, witnessing violence, threats, degrading treatment and humiliation of family members may lead to deep despair and emotional insecurity for children (Qouta et al., 2003).

Children living in war conditions show distrust of parental or caregiver protection, a sense of growing insecurity, and a deep sense that physical harm is repetitively possible (Arafat & Boothby, 2003). In war situations, children's sense of safety and protection is often intensely devastated, when the enemy military attacks their homes and makes them witness their parents as helpless and disgraced victims. For instance, research found in a study of children after 2009 war on Gaza, that most children (82%) experienced life-threat, three fourths (73.5%) scared that they were about to die, and almost all (99%) stated not feeling safe in their homes or feeling that parents were not able to defend them (94%) (Thabet, Ibraheem, Shivram, Winter, & Vostanis, 2009); while 99% of children had suffered humiliation in a study of 1,137 children aged between 10 and 18 years (Altawil, Nel, Asker, Samara, & Harrold, 2008).

Children may become more prone towards the use of aggression and violence as a mean to solving their problems with others. Such construct might be facilitated by the socially-accepted normalization of violence in the community context, mainly in a situation dominated by constant and life-threatening political violence. For instance, studies have revealed that experience of violence is linked with a variety of harmful adjustment consequences including elevated aggression (Mahoney, Donnelly, Boxer, & Lewis, 2003; Ng-Mak, Salzinger, Feldman, & Steuve, 2004).

War impacts children's views of the world and shatters their fundamental views that the world is a harmless and just place, that people are sympathetic, and that people deserve safety and security (Janoff-Bulman, 1989; Qouta, Punamäki, & El-Sarraj, 2008). The war conditions and continuity of violence can be exhibited through dysfunctional family processes as family fears and worries about their children may lead to violent interactions (Catani, Jacob, Schauer, Kohila, & Neuner 2008). Specifically, posttraumatic stress symptoms that resulted from experiencing war trauma have been related to higher aggression and inattentiveness in mother–child interactions in refugee mothers (Van Ee, Kleber, & Mooren, 2012). In the same vein, children who reported that family had been exposed to higher levels of organized violence were at an increased danger of undergoing abuse and ill-treatment at home (Haj-Yahia & Abdo-Kaloti, 2003).

1.2 War Trauma and Mental Health

Research confirm that war trauma means life threat and deep insecurity for children and indicates heightened danger for psychological difficulties (Khamis, 2015; Kolltveit et al., 2012; Thabet & Vostanis, 2015). For instance, children react to trauma with strong horror and vulnerability and have a high risk of developing psychological difficulties and disorders, primarily PTSD (Alhasnawi, et al., 2009; Thabet, et al., 2014). In this regard, based on (DSM-5), PTSD indications include re-experiencing of traumatic incidents as recollections and repetitive thoughts, escaping of trauma-related reminiscences and numbing of emotional state and increased provocation manifest in attention problems and sleeping troubles. For example, in war affected areas, common symptoms of PTSD include children reacting with startle response and anxiety to thunder thinking that it was shelling or bombs, difficulty sleeping alone or falling asleep due to fear of darkness and fear of shelling happening while they are asleep and might sleep away from windows fearing shattered glasses from shelling (Qouta et al., 2003; Thabet et al., 2014).

Further, children's reactions vary from psychological pain and behavioral difficulties to increased frequency of mental disorders, including mood, nervousness, and conduct disorders (Betancourt, Speelman, Onyango, & Bolton, 2009; Khamis, 2015; Qouta et al., 2003). For example, a systematic analysis showed the general estimation of PTSD to be 47% (17 studies with 7,920 participants) in acute and post-war conditions (Attanayake et al., 2009). Likewise, in a study to investigate the emotional difficulties among 91 Palestinian children whose homes had been shelled and destroyed during the emergency in Palestine, 59% of children reported indications of post-traumatic stress and fear (Thabet et al., 2002). Similarly, in a study by Thabet & Vostanis (1999), many children (41%) were reporting from moderate to severe post-traumatic stress symptoms.

Research shows that war-affected children also show anxiety and depressive symptoms (Catani et al., 2008; Qouta et al., 2003; Qouta, Punamäki, & El-Sarraj, 2008). Depressed children may display symptoms of loss of appetite, low energy, depressed mood,

unpopularity among peers, social withdrawal, disobedience, inattentiveness, poor school performance, somatic complaints, and unresponsiveness. While children with anxiety symptoms display signs of disruptive behavior, restlessness, separation anxiety, fears of physical injury, overanxious behavior, hypervigilance, nervousness, excessive fears, worry, panic, social phobia, and school phobia (Kraja & Ahmeti, 2015; Panter-Brick, Goodman, Tol, & Eggerman, 2011). For example, children may feel angry and wish for revenge and externalize their symptoms through anxiety and PTSD (El-Kahlout & Thabet, 2017; Qouta et al., 2003; Thabet, Thabet, & Vostanis, 2016). As a result, they might be attracted to identify with the power figures embodied in the military parade (El-Sarraj, 2002). Likewise, some children may direct their fear and anger inwards, resulting in depression (El-Kahlout & Thabet, 2017; Pfefferbaum, 1997; Thabet et al., 2016), difficulties in emotional regulation and sleeping (Yule, 2002), and withdrawal and somatic complaints (Amone-P'Olak, Garnefski, & Kraaij, 2007).

Researchers investigated the long-term impacts of war trauma among children to study the psychological and developmental impacts of war atrocities (Betancourt, Meyers-Ohki, Charrow, & Tol, 2013; Cummings, Goeke-Morey, Schermerhorn, Merrilees, & Cairns, 2009; Panter-Brick et al., 2011). For example, in a longitudinal study of 214 Iraqi children and adolescents aged 6–18 by Dyregrov, Gjestad, and Raundalen (2002), the results revealed that an extremely troubled population of children who continued to experience unhappiness over time, persisted frightened of losing their family, and felt that friends and family do not really appreciate what they experience. Further, even though there was no substantial deterioration in disturbing and avoidance responses from 6 months to 1 year following the war, there was a decrease in these types of reactions 2 years after the war. Similarly, in a study by Boxer et al. (2013) targeting 1501, 8–14 years old children, living in Palestine (N = 600 children) and in Israel (N = 901; 451 Jewish and 450 Israeli-Arab children), it was reported that ethic and political violence intensifies community, family, and school violence and children's hostility that are continued over time across various situations. It was also found that Palestinian children were at the extreme risk of experiencing violence across situations as well as at the uppermost level of violent conduct in contrast to the two other groups.

1.3 War Trauma and Child Development

Abundant research documented the negative impact of exposure to war trauma on children's cognitive, emotional, and social development (Khamis, 2015; Qouta, Punamäki, El-Sarraj, 2008; Reed et al., 2012). For example, researchers report that war trauma intensely impacts children's cognitive development (i.e. difficulty differentiating between good and evil, horror glooms intellectual capacity, and diminished mental capacity for attention and concentration), emotional development (i.e. narrow or biased emotional repertoire,

selective empathy, and trouble in anger regulation) (Pfefferbaum, 1997; Punamäki, 2002; Qouta, Punamäki, & El-Sarraj, 1995).

Research confirm that war trauma can have an adverse effect on children's emotional development represented by persistent fear, insecurity, anxiety, lack of trust (Abu Jamei, 2016; Zivcic, 1993). Also, war means reduced parental capacity to endure emotional care for their children (Qouta et al., 2003) and war trauma can damage children's key social relations in family and school environment (Barber, 2001; Hodes, Jagdev, Chandra, & Cunniff, 2008). In a study by Qouta, Punamäki, and El-Sarraj (2008) found that children experiencing trauma had concentration difficulties and low cognitive capacity and problems processing additional information and recalling old information.

Moreover, research found that preoccupation with self-safety and the safety of family and friends can hinder a child's social development, especially in environments of war when their sense of safety is endangered (Peltonen, Qouta, El-Sarraj, & Punamäki, 2010). In a study of war-affected youths in northern Uganda, Annan, Blattman, and Horton (2006) give indication of the significant role of the family in the restoration of 741 male former child soldiers and their long-term mental health consequences in Northern Uganda. Individuals who had strong family and social support were more expected to have lesser levels of emotional agony and exhibited healthier social development (Annan et al., 2006; Betancourt & Khan, 2008).

On the other hand, it was found that elastic information processing and strong cognitive capacity was related to good psychological adjustment and could even guard children's mental health from the adverse effects of military violence (Qouta, Punamäki, & El-Sarraj, 2008). At the same time, research proved that an equilibrium between intelligence and creativity could shield children's mental health from the long-term damaging influence of military trauma (Punamäki, Qouta, & El-Sarraj, 2001).

2 War Trauma, Social Relations, and Mental Health

War trauma has significant impact on social relations of the children living in war affected areas. War trauma can pull apart key social relations that are vital for children's existence, recovery, and mental health.

2.1 War Trauma and Social Relations

Social relations and support are essential for children in securing a sense of physical protection, relief and nurturing. Research confirm that support is substantial in providing a shielding safeguard for children's psychological well-being in stressful conditions (Betancourt et al., 2012; Hong et al., 2010). In such conditions, children pursue social support from parents, siblings, and peers to provide them with assurance of safety. For instance, studies have found that the effects of trauma depend greatly on whether those wounded can find comfort, reassurance, and safety with others (Betancourt et al. 2012). Similarly, strong social resources counterbalance feelings of insecurity, helplessness, and worthlessness. In traumatic circumstances, people gather to survive, which aids as a social safeguard against trauma (Baker & Shalhoub-Kevorkian, 1999). For example, research confirms that networks of support act as a protective shield in war settings, where information about the targets and tactics of the opponent armed forces and about availability of housings is key for protection and existence (Peltonen et al., 2010).

Family functioning and social relations can be disrupted, especially with multifaceted, on-going, or recurrent trauma, as experienced by those living in war or conflict zones. There is an abundant amount of research on the effects of war trauma and political violence on social relations (Peltonen et al., 2010; Punamäki, Qouta, Montgomery, & El-Sarraj, 2006). Likewise, there is evidence that wars divide families and social systems, disrupt service systems and often lead to deep ethnic and political divisions (Betancourt & Khan, 2008). For instance, in the context of social relations, multiple studies have shown that war trauma disturbs substantial social contacts in family and school (Barber, 2001; Hodes et al., 2008). Similarly, research confirms the effects of war can include a deterioration in the quality of parent-child relations (Barber, 2001) and friendship relations (Hodes et al., 2008; Peltonen et al., 2010), both directly and through mental health problems.

2.1.1 Social Relations and Mental Health

Similarly, evidence displays that decent social relations can guard mental health in life-risking situations of war and military violence (Betancourt & Khan, 2008). Clinging together and helping each other is vital in life-endangering situations, and rebuilding trust after a trauma is a prime task for survivors. For example, social support was found to be linked with lesser levels of depressive indicators and relational problems in one cross-

sectional study in post-conflict Lebanon (Farhood et al., 1993). Moreover, there is evidence that emotion ventilation to significant people in the immediate framework relates to good mental health in the face of trauma (Mueller, Orth, Wang, & Maercker, 2009). However, it could be argued that it is possible that children with good mental health are better able to maintain friendships and social networks.

In periods of threat, individuals search for connection and shelter (Bowlby, 1982), which explains the importance of family relations in war and military violence. The value of the family functioning diminishes the child's susceptibility to trauma. Research found that supportive and warm resources from family impact their children's emotional comfort, and can shelter children from adversities (Thabet, Tawahina, El-Sarraj, & Vostanis, 2008; Turner & Brown, 2010). Family support was a protective factor for general psychological worries during ongoing violence (Punamäki, Qouta, Miller, & El-Sarraj, 2011; Tol, Song, & Jordans, 2013). Similarly, Barber's (2001) study with Palestinian youth concluded that a fostering parenting style enhanced children's growth and emotional comfort in the setting of political violence. In Punamäki et al. (2001) study of Palestinian children, children who had affectionate and accepting parents were more artistic and competent in problem-solving, eventually shielding their mental health in spite of experiencing political violence.

However, military conflict can cause a risk to children's security because it endangers the social support that could safeguard their mental health (Ozer, Best, Lipsey, & Weiss, 2003). In the same vein, there is evidence that war trauma can interfere with family relations as troubled parents may not have the power to care for their children (Barber, 2001).

Similarly, post-conflict Bosnia and Herzegovina, peer social support was linked to lesser levels of depression among adolescents (Durakovic-Belko et al., 2003). In their study in Sierra Leone, Betancourt et al. (2013) found that public acceptance of former child soldiers was related to higher levels of prosocial behavior and assurance. Also, social support and acceptance were linked to children's healthy adjustment (Betancourt, Brennan, Rubin-Smith, Fitzmaurice, & Gilman, 2010). Similarly, belonging and acceptance as a form of social support was protective for depressive symptoms in boys, but not girls (Brajsa-Zganec, 2005).

There is evidence that friendships and siblingships are protective from the negative trauma consequences in threatening environments of war and military violence (Betancourt & Khan, 2008; Peltonen et al., 2010). Similarly, good sibling relationships can offer a sense of care, assurance and relief during times of hardship and trauma (Gass, Jenkins, & Dunn, 2007; Howe, Aquan-Assee, Bukowski, Lehoux, & Rinaldi, 2001). Also, sibling care can decrease stress, boost optimal coping behavior and smooth recovery from trauma. In many families, siblings provide nurturing and positive identification models and good relations offer a sense of safekeeping, assurance, and relief in adversities and strain (Gass et al., 2007; Howe et al., 2001). For example, in siblingship, children learn intimacy, sharing and trust as well as argumentation, fighting and conflict - all important for optimal development and mental health (Howe et al., 2001).

Moreover, children who experience affectionate sibling and peer relations display less posttraumatic stress disorder (PTSD), depression, and other mental health complications (Ehntholt & Yule, 2006; Peltonen et al., 2010). The associations are observed because mental well-being and happiness helps in having better relationships. For example, a study among Palestinian children displayed that low levels of competition and higher levels of closeness between siblings safeguarded children from anxiety and depressive symptoms (Peltonen et al., 2010). Similarly, it was argued that, even though experience of violence might constantly be understood as "bad" for children, political violence might be controlled by the political and social support exhibited in families and peer groups (Dubow et al., 2009).

However, contradictory and harmful sibling relations can heighten the danger of mental health difficulties. There is evidence that elevated levels of sibling conflict are connected with an enlarged risk of later internalizing symptoms (Buist, Deković, & Prinzie, 2013). Research found weakened peer and sibling relations in traumatic situations among Palestinian children (Peltonen et al., 2010). Further, witnessing acts of violence and brutality can leave disturbing memories that hinder warm sharing and trust among peers. For example, a study among Palestinian children (N = 227, 10–14-year-olds) established that experience of severe military trauma augmented sibling competitiveness and deteriorated friendship, particularly among girls (Peltonen et al., 2010). Similarly, traumatized children were less satisfied with their social networks. For instance, research confirms that traumatized children expressed that the support obtained from siblings and friends was unsatisfactory and did not satisfy their desires (Paardekooper, De Jong, & Hermanns, 1999; Peltonen et al., 2010). In the same vein, children might get scared that something negative is experienced by their parents and siblings, and this worry with family wellbeing can disturb their maintenance of peer and friendship relations (Peltonen et al., 2010).

2.1.2 Protective Factors in War Trauma

Protective factors are defined as those personal, social, and organizational resources that enhance capability, encourage successful growth and, thus, reducing the chance of engaging in problematic behavior (Luthar, 1993; Rutter, 1987). War trauma often creates a necessity for shielding and helpful social relations that can foster appropriate coping and emotion sharing and building of meaningful experiences (Betancourt et al., 2012; Peltonen et al., 2010). For example, research found that among war-affected Chechen adolescents, social and peer support worked as shielding buffer for mental health (Betancourt et al., 2012). In a study by Dubow and Rubinlicht (2011), it was found that coping strategies are related to children's psychosocial adjustment as problem-focused, and engagement coping strategies predicted positive adjustment. Further, Veronese, Castiglioni, Tombolani, and Said (2012a) stated that constructive emotions facilitate children's wellbeing and life satisfaction, serving as shielding factors in meeting day-to-day violence. Similarly, a study by Veronese, Natour,

and Said (2012b) found that Palestinian children exhibit great hopefulness, life satisfaction and decent quality of life. Specifically, Veronese et al. (2012) argued how environmental aspects such as autonomy and shelter at home as well as individual aspects such as positive emotions, a feeling of capability and life satisfaction, are protective and can benefit children to tolerate life-threatening traumas.

People and families attempt to protect themselves and improve their psychological, social and physical repertoires that would assure human development. Such resources in trauma are key for their power to protect against adverse war experiences, and to enhance resilience. Helpful social relations can augment real coping, emotion venting and building of new meaning of life. Family ties are considered one of the key shields of the child mental health in war conditions. Research indicate that the family in the Palestinian culture is the core protector for children under conditions of war trauma (Qouta, Punamäki, & El-Sarraj, 2008). Similarly, in life-endangering conditions, both community and self-help seem necessary to protect the children and enhance their mental health.

Research also confirmed that parent care was a shielding factor for depressive symptoms (Durakovic-Belko et al., 2003), anti-social behavior, aggression in post-conflict settings (Barber, 1999), and general psychological worries during continuing violence (Punamäki et al., 2011). For example, parent support was associated with higher appreciation of education and school grades in a cross-sectional study of Palestinian children (14–15-year-old; n = 6,923) (Barber, 1999). Researchers argue that shelter, kindness and support within families are significant protectors of children's mental health. For instance, caring and facilitating parenting styles were found to predict low levels of PTSD and emotional pain among children in the face of harsh military trauma (Qouta, Punamäki, Montgomery, & El-Sarraj, 2007; Thabet et al., 2007). Similarly, Barber (2001) presented that good parenting, social cohesion in family, high parental education, and religious obligation greatly protected Palestinian children's mental health in circumstances of military violence (N = 6,000, 14-year-olds).

Parental support was also commonly found to have protective impact. Mother's and father's sound mental health was described to be protective for general psychological problems in a large cross-sectional study with a comparable population (n = 660) (Punamäki et al., 2011). Further, overall quality of the home atmosphere and family life have been found to be shielding in a longitudinal study with a randomly selected sample of 11–16-year old in Afghanistan (n = 234) (Panter-Brick et al., 2011). Research found that the more children experience adversity (e.g. exposure to violence, poverty, disability), the more their positive wellbeing depend on the quality of the setting (rather than individual qualities) and the resources that are accessible to foster and sustain their well-being (Ungar, Ghazinour, & Richter, 2013).

Likewise, Punamäki et al. (2001) concluded that during various periods of conflict, political activity was a coping style among school-age children and was protective against general psychological difficulties and PTSD. Further, Helminen and Punamäki (2008)

showed the protective impact of dreaming on general psychological symptoms as well as PTSD, anxiety, aggression, and depressive symptoms. Similarly, a study with Kurdish children (9–17 years old; n = 122) concluded that enjoyable dreams with comprehensive descriptions and joyful conclusions moderated the relationship between exposure to traumatic events and general psychological symptoms (Punamäki, Ali, Ismahil, & Nuutinen, 2005). Also, Kuterovic-Jagodic (2003) emphasized the protective effects of agency, as an internal locus of control, for PTSD symptoms in the post-conflict phase. For example, in a study conducted post-conflict in Bosnia and Herzegovina, Durakovic-Belko et al. (2003) revealed that optimism related to lower PTSD and depressive symptoms. Lastly, for overall psychological problems, Punamäki et al. (2001) concluded that creativity and mental flexibility are protective among a sample of Palestinian children.

3 War Trauma and Resilience

3.1 Resilience Among War-Affected Children

Resilience is known as the ability to come back to normal functioning or even blossom after severe trauma (Masten, 2007). Resilient children are those who demonstrate elevated levels of mental health functioning even with high exposure to traumatic actions (Masten & Narayan, 2012) and some might even display high growth and competence and even become emotionally tougher subsequent the trauma (Luthar, Cicchetti, & Becker, 2000; Rutter, 2000). Resilient children perform fairly well compared to others despite experiencing hardship, by confronting difficulties and not giving up to risk-generated harmful results that most suffer (Barber, 2013; Luthar et al., 2000).

War experiences can disturb children's access to vital resources and deny them from a sense of safety; thus, placing devastating strains for their strength and resilience. A key task in helping children in war situations is to improve, support, and promote their resilience.

Research concluded that in the face of exposure to a variety of disturbing atrocities, not all exposed children show continuing health problems and some children are able to adjust with only minor symptomatology (Freh, 2015). There is evidence that many children can tolerate traumatic experiences, preserve mental health, and enjoy normal development in war (Masten & Narayan, 2012). For example, studies among war-affected children based on severity of their war trauma (low vs. high) and manifestation of psychiatric disorders (no vs. yes), concluded that about a fifth (21%) (Punamäki et al., 2011), and a quarter (25%) (Thabet, Tawahina, Punamäki, & Vostanis, 2015) of the children were resilient (i.e. experienced severe war trauma, but did not show psychiatric disorders).

3.2 Factors Affecting Resilience

Resilience of children develop within numerous structures in which they interact (Rutter, 2012; Ungar, 2013). Researchers report factors contributing to resilience among war-affected children, typically hypothesizing them on several levels based on Bronfenbrenner's ecological models (Betancourt et al., 2013; Dubow et al., 2009; Lerner, 2006; Ungar, 2013). The first level describes children's individual characteristics and ways of coping with adversities. Second, family and social are the core basis of support contributing to child's healthy growth. Third, numerous contextual and cultural resources offer access to valuable methods linked with resilience (Ungar, 2013).

According to Werner (2000), individual characteristics and strength are protective aspects that contribute to resilience. Children's cognitive and emotional growth can serve as a basis of strength, structure of "resilience" and enhancing their competence to "bounce back" from the adverse and possibly traumatic effects of political violence. For instance,

resilient children typically consider traumatic events as less damaging, appreciate the available social resources and implement pertinent cognitive-emotional process that are appropriate to the strains of specific traumatic actions (Betancourt et al., 2013; Bonanno & Mancini, 2008; Shalhoub-Kevorkian, 2006; Tol et al., 2013). Researchers acknowledged six themes which showed a wide group of assets and resources that seemed to ease the capacity to circumvent the trauma of war: a sense of agency; social intelligence, compassion, and emotion regulation; collective experience, nurturing features, and community networks; a sense of future, hope and growth; a connection to spirituality; and ethical principles (Betancourt & Khan, 2008; Cortes & Buchanan, 2007). In the same vein, research found that children who participated in political festivities (i.e. peace celebrations involving raising flags) showed higher self-esteem (Qouta, Punamäki, & El-Sarraj, 1995) and mental flexibility (Qouta, El-Sarraj, & Punamäki, 2001). For example, in a study among 134 children in Rwanda, Betancourt et al. (2011) pointed to the key aspects of resilience functioning including, perseverance and self-esteem/confidence. In the same way, in his research, Barber (2001) concluded that religious affiliation was linked with reduced levels of anti-social behavior and depressive symptoms among adolescent girls among 6,923 Palestinian children.

Social resources are central in trauma situations as they have their possibility to "immunize" against undesirable war experiences, and lead to resilience (Cohen, Dekel, & Solomon, 2002; Mikulincer, Shaver, & Horesh, 2006). Resilient individuals have the capacity to take advantage of family and social resources and opportunities around them (Betancourt, 2011; Ungar, 2013). Research revealed that talking about aching experiences and sharing various emotions is regarded as one of the secrets of resilience among traumatized children (Punamäki, 2006). The assurance by family of safety and protection are of immense importance for children. This is mostly factual when the child can rely on continuous support from parents, family, friends and other community members and social organizations (Arafat & Boothby, 2003; Barber, 1999; Punamäki et al., 2001). Similarly, family relations and school-related protective factors have been found to vital protective mechanisms that can promote resilience (Luthar et al., 2000; Murray & Zautra, 2011). Research presented evidence that sincere family unity augment children's resiliency confronting military violence (Punamäki, Qouta, & El-Sarraj, 1997; Thabet, Abdulla, El-Helou, & Vostanis, 2006; Spellings, Barber, & Olsen, 2012). In the same vein, in a study Eggerman and Panter-Brick (2010) studied children in Afghanistan and emphasized the vital role of positive wellbeing indicators (i.e. strong sense of morality, correct behavior, family unit and honor).

Research underscores the role of children's social context in providing foundation for individual or family resilience (Betancourt, 2011; Rutter, 2012; Ungar, 2013). In a widespread 11-country study on prerequisites to resilience, most of the important predictors were social and political aspects (Ungar & Liebenberg, 2011). Studies have established that moral outlooks and cultural resources are fundamental in instilling hope and functional life aims

among war-affected children (Barber & Schluterman, 2008; Eggerman & Panter-Brick, 2010). A study by A.A. Thabet and Thabet (2015) of Palestinian children found that 94.6% of children said they were privileged of their citizenship, 92.4% said they feel harmless when they were with their caregivers, 91.4% said that their spiritual (religious) values were a basis for them, and 91% said they were satisfied of their family rearing. Likewise, a longitudinal study among Afghan families found numerous factors contributing to resilience, such as belief and religious world order, family harmony, caring systems and ethical codes of respect and honour (Eggerman & Panter-Brick, 2010; Panter-Brick et al., 2011). Similarly, research in Palestine stress the concept of "Sumud" (i.e. resistance and steadfastness to persist, adherence to ideology, and attachment and belonging to the land) as an indicator of positive wellbeing and resilience (Nguyen-Gillham, Giacaman, Naser, & Boyce, 2008).

4 Emotion Regulation and Mental Health

There is evidence that after a major trauma, children may face difficulty controlling their feelings and are easily frightened, jumpy, irritated and impulsive. They may also withdraw from social contacts, experience concentration problems at school and feel lonely and isolated (Punamäki et al., 2007). For instance, a study among Russian terrorism-exposed children established that emotion and thought suppression, as well as cognitive and behavioral avoidance formed a risk for psychopathology (Moscardino, Scrimin, Capello, & Altoè, 2014). Similarly, Amone-P'Olak et al. (2007) in a study among war-affected adolescents in Uganda, found a connection between denial and blaming others (as cognitive ER strategies) and the severity of PSTD symptoms. In the same vein, results of an extensive meta-analysis of 64 studies confirmed that thought suppression formed a severe risk for children's PTSD (Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012).

In the presence of overwhelming threat, a repertoire of emotion regulation is beneficial (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Different ER strategies are protective in maintaining wellbeing and perhaps 'immunization' against symptoms. For example, trusting in one's self and believing in one's own regulatory abilities, could protect trauma-exposed children from PTSD symptoms. Research shows that children are inclined to control their emotions in ways that are suitable and can help them deal with the tough situations (Eisenberg, Spinrad, & Eggum, 2010). In a study of 84 Kenyan children, results showed a marginally significant protective role of intensive ER for prosocial behavior in a follow-up setting (Kithakye, Morris, Terrn, & Myers, 2010). Additionally, a cross-sectional study among Russian adolescents (N = 171) found that balanced and moderately controlled ER was associated with good mental health, shown by low levels of PTSD and depression symptoms in the aftermath of a terrorist attack (Moscardino, Scrimin, Capello, Altoè, & Axia, 2009). In other words, children responded in multiple ways to protect their mental health and maintain emotional balance.

5 Psychosocial Interventions Among War-Affected Children

5.1 Elements and Processes in Psychosocial Interventions

Researchers hypothesized and suggested a three-layered model for mental health and psychosocial support for children experiencing war and political violence including: First, *promotion* such as activities aimed at providing information about normative responses to trauma and focusing on strengthening the positive aspects of mental health and well-being; second, *universal programs* such as activities aimed at preventing development of mental health problems through events that work on determinants of mental health; and third, *targeted programs* including CBT therapy and treatment to diminish symptoms and enhance overall functioning of children diagnosed with mental disorders (Betancourt et al., 2013; Inter-Agency Standing Committee (IASC), 2007; Persson & Rousseau, 2009; Tol, Purgato, Bass, Galappatti, & Eaton, 2015).

The first layer, *promotion*, is a preventive model where information to parents, teachers, children, general public, decision makers etc. are given about normal development, when parents should worry, what war causes etc. They are provided information about normative responses; information and guidelines for teachers on trauma and healing; booklets for parents and children that trauma can be healed i.e. public awareness and publications distributed to children, teachers and parents on ways of dealing with the trauma. Research demonstrates that mental health promotion-enhancing programs in schools are important, especially those that adopt "the holistic approach" leading to positive results in mental health and improving social and academic well-being (Barry, Clarke, Jenkins, & Patel, 2013; Tennant, Goens, Barlow, Day, & Stewart-Brown, 2007; Weare & Nind, 2011; Wells, Barlow, & Stewart-Brown, 2003). For promotion programs, services include advocacy, public awareness, and media campaigns aimed at raising awareness about and preventing common mental disorders and behavioural difficulties in children (O'Sullivan, Bosqui, & Shannon, 2016). Further, training programs are provided to enhance the skills of professionals of local organizations working in mental health and psychosocial services as well as to enhance the skills of parents. These programs include supporting and educating parents through public health services (i.e. publications on normal and abnormal responses to children's trauma).

The second layer of intervention is *preventive intervention* (universal school programs) targeting all school children who may be exposed to political violence and trauma. Such interventions might be characterized by their application by untrained workers or by working with people with broad psychosocial problems or psychological distress (Purgato et al., 2018). According to Pfefferbaum, Varma, Nitiéma, and Newman (2014), universal programs are typically administered in a group format as in schools, where most preventive

interventions delivered to children pre- and post- disaster are multimodal and rely heavily on cognitive behavioral techniques. Such interventions have demonstrated benefit for at least some of the outcomes measured. Moreover, intervention programs are non-stigmatizing and offer an easy access alternative to mental health care clinics for children (Persson & Rousseau, 2009) and they may limit the number of children who are referred to specialized psychological services (Murray & Jordans, 2016).

The universal programs target a large group of children who do not necessarily have a diagnosis, but may be suffering from anger, anxiety, aggression, and fear (Persson & Rousseau, 2009). Such programs focus on strengthening community support and self-esteem and on describing the meaning the child gives to the trauma (Betancourt et al., 2013). Universal school programs contain structured activities and include techniques of play, drama, art and movement to enhance the sense of stability and improve the child's feelings of safety, stability, and belonging (Betancourt et al., 2013). The programs contain psychoeducation, cognitive-emotional trauma processing, social affiliation. These programs include supporting and educating parents through public health services (i.e. publications on normal and abnormal responses to children's trauma). Specifically, children learn how to recognize their psychological fears and responses, how to relax, regulate their emotions, and self soothe.

Moreover, universal programs target all groups of society who do not exhibit symptoms or disorders but may be vulnerable or likely to develop symptoms. Such programs work (with the involvement of parents and school) on improvement of basic needs of children. Research found that interventions conducted in cooperation with parents, schools and society have demonstrated improvements in a child's mental health, social and academic functioning, and general health behavior (Barry et al., 2013). Moreover, school interventions may prevent deterioration of a child's mental health and improve academic achievement and self-esteem by securing a safe and supportive environment, providing basic needs and security, and protecting a child's rights (Persson & Rousseau, 2009). For example, the teaching recovery technique "TRT" (Qouta et al., 2012) and school mediation intervention "SMI" (Peltonen, Qouta, El-Sarraj, & Punamäki, 2012) are implemented in the Palestinian context with the focus on reducing mental health problems and symptoms, and on enhancing social skills, resilience and appropriate emotional well-being.

The third layer of intervention is *targeted intervention* for children who suffer already, are at high risk or who have clinically significant symptoms. The use of such interventions as play therapy, family therapy, psychodrama is employed. This includes a selected group of children who are at risk of being traumatized, or who might develop PTSD, depression, and development problems in war conditions (Peltonen & Punamäki, 2010). Interventions are conducted through targeted and trauma-oriented behavioral cognitive processes and through other techniques of expression and relaxation such as meditation and art work. Individual therapeutic interventions such as Trauma Focused Cognitive Behavioral Therapy (TF-CBT) (e.g.; Scheeringa, Weems, Cohen, Amaya-Jackson, & Guthrie, 2011);

Narrative Exposure Therapy (NET) for the treatment of PTSD, is usually provided for a brief period at the individual level by specialized professionals (e.g.; Neuner et al., 2008). Similarly, Thabet, Abu Tawahina, El-Sarraj, and Vostanis (2009b) implemented a study of 84 school children aged 12 to 17 years, to assess the effectiveness of psychodrama sessions on children who experienced war trauma in the Gaza Strip. They established that there was a statistically substantial reduction in total scores of children's mental health difficulties after the intervention.

Moreover, family therapy is also provided and is based on the principle of a healthy relationship between the child and parents with the focus on overcoming the child's psychological trauma as a key step in enhancing the child's mental health. In their review, Newman et al. (2014) found, generally: interventions were effective in relieving symptoms of PTSD; children receiving individual intervention show more improvement than children who receive group interventions: and interventions with involvement of parents were more effective than other interventions. Through positive interaction with the child, general theories of development are employed in educating parents and encouraging them to apply trauma healing skills as the basis and source of intervention techniques. Step-by-step direction and emotional care is provided to help parents generate a sincere family atmosphere in supporting the determinants of healthy child growth (Peltonen & Punamäki, 2010; Slone & Mann, 2016). This includes a designated group of children who are at danger of being traumatized, or who might develop PTSD, depression, and development complications in war conditions (Peltonen & Punamäki, 2010). Children who have been subjected to severe trauma such as watching shocking events (their parents being killed, and their homes being destroyed) are included in this group. Preventive interventions are conducted through targeted and trauma-oriented behavioral cognitive processes and through other techniques of expression and relaxation such as meditation and art work. For example, Catani et al. (2009) used this technique with 31 children (who were preliminarily diagnosed with PTSD) in Sri Lanka who were randomly allocated either to six sessions of Narrative Exposure Therapy for children (KIDNET) or six sessions of meditation-relaxation (MED-RELAX).

5.2 Intervention Modalities

Research emphasizes that the common modalities used in intervention with children in areas of war and military violence are designed based on expression of emotions and narratives of children. Such modalities mainly include; creative expression methods, psychoeducation, and cognitive behavioral therapy (Jordans, Tol, Komproe, & de Jong, 2009; Jordans, Pigott, & Tol, 2016; Peltonen & Punamäki, 2010; Pfefferbaum, Newman, & Nelson, 2014).

In *creative expression approaches*, children express their traumatic experiences through free drawing, chatting about traumatic experiences' emotions, writing about experiences,

storytelling, games, dancing, singing, and partaking in war-related role play (Jordans et al., 2009). These interventions focus on strengthening a child's cognitive skills and trauma response processes, enhancing constructive logic and problem solving, building good relationships and improving adjustment (Jordans et al., 2009; Peltonen & Punamäki, 2010). By means of dance, music, drama, sand play or visual arts activities, it is possible to tackle difficulties in a non-threatening way. Research empathizes that creative expression programs are particularly good for trauma-related tension as it provides a playful tactic to treatment (Beauregard, 2014; Conrad, Hunter, & Krieshok, 2011; Jordans et al., 2016). Such programs enable children to create a meaningful and coherent world around their trauma. It also encourages children to establish bonds as well as improve children's understanding with problems associated with grieving, trauma, and adjustment after the trauma. Creative expression therapies positively impact learning and treat behavioural and emotional difficulties of children. Creative expression can also be used as a preventive means to boost children's mental health. For example, Nöcker-Ribaupierre and Wölfl (2010) offered musical expression to school-age German children to assist expression of emotions and reduce aggressive tensions to thwart violence from emerging and/or intensifying. Similarly, an after-school programme for girls – Art from the Heart – designed to enable positive contacts between participants (Sassen, Spencer, & Curtin, 2005) and a TRT intervention reduced mental health symptoms of the same sample (Qouta et al., 2012).

Ager et al. (2011) implemented a Psychosocial Structured Activities (PSSA) program on 203 war-affected children in northern Uganda. The PSSA intervention included a succession of 15 class sessions intended to gradually increase children's resilience through designed activities containing drama, movement, music and art. The PSSA fundamental concentration is 15 sessions starting from themes of safety and control, through those of awareness and self-esteem, to personal stories, coping skills, and future planning. These sessions include play therapy, drama, art and movement to boost children's resilience and feelings of steadiness and security after trauma as they develop emotionally and cognitively over the sequence of the program. After intervention, significant positive impact on children's recovery and well-being was documented. Moreover, a Class-Based Intervention (CBI) has been applied for war-affected children aiming at facilitating resilience, enhancing effective coping, and preventing mental health problems. Techniques contain incorporation of trauma-related reminiscences, cooperative play, and boosting a sense of safety. A study by Jordans et al. (2010) implemented on among 325 Nepalese children found that the CBI was effective in increasing prosocial behaviour among girls and lessening aggression among boys and led to symptom reduction. Also, the CBI was found to increase optimism and decrease PTSS among 459 Indonesian children (Tol et al., 2008). Moreover, the CBI was also effective in diminishing symptoms among younger Palestinian children experiencing severe war trauma (Khamis, Macy, & Coingnez, 2004).

An intervention by Thabet, Abu Tawahina, El-Sarraj, and Vostanis (2009a) focused on eight school-based debriefing sessions for 240 Palestinian children ages 10 to 16 who had

been exposed to war trauma. The sessions comprised of providing a harmless atmosphere to share traumatic experiences, deliver precise information about the trauma to elucidate misinterpretation, draw pictures about one of their worst memories, share their drawing, and partake in story-telling about their experiences. The sessions intended at facilitating communication, discussion of worries, raising conversations of myths and beliefs, release of feelings, and empowerment in building the future. After the intervention, children reported a decrease in their mental health problems. Similarly, a psychosocial support program used "I DEAL", a life skill program designed to improve the aptitude of children and young people targeted by armed conflict in the Republic of South Sudan to 'deal' with their day-to-day routines. The program helps children to develop specific knowledge and skills and encourage positive changes in behaviour. The intervention is founded on creative and sharing approaches that encourage 'learning by doing' and is regarded as an effective way for children to gain physical, emotional and social life-skills - helping them to express emotions, connect better and build relationships. During creative play, children learn about social rules, the potentials and restrictions of their own bodies, about solving practical problems, relating to others, and confronting difficult situations. The findings suggest that I DEAL positively affects children's social surviving skills and has the possibility to strengthen children's emotional coping skills and classroom successes (Eiling, Van Diggele-Holtland, Van Yperen, & Boer, 2014).

Psychoeducation methods have been used as part of CBT or creative intervention methods. Such methods include information about common child responses, symptoms, and ways to understand trauma and aim to mitigate the negative effects of trauma. Such strategies focus on improving mental health and psychosocial well-being, resilience, stress management, and conflict resolution of children affected by armed conflict. Some interventions depend on the building of relationships of trust, expression, problem-solving in positive manners, trauma-focused exposure therapy, and participation of family and family support (Jordans et al., 2016). Woodside, Barbara, and Benner (1999) implemented a school-based four-month period manual for 250 Fourth and Fifth grade children. This was planned to encourage trauma recovery, non-violent conflict resolution, peaceful living, human rights, and diminishing of ethnic prejudice in Croatian children affected by war. Similarly, Jordans, Tol, Ndayisaba, and Komproe (2013) conducted a brief parenting psychoeducation intervention on children's mental health post-war in Burundi. The psychoeducation intervention was offered to groups of parents of 58 children who had elevated psychosocial distress. The intervention had a beneficial effect on reducing conduct problems. Parents evaluated the intervention positively and reported increased awareness of positive parenting strategies and appropriate disciplinary techniques.

A study by Thabet, Tawahina, and Vostanis (2009) aimed to measure the effectiveness of student mediation intervention (SMI) in enhancing Palestinian children's mental health. The participants were 304 school children 6–16 years. The SMI meant to improving students' social functioning through means of problem-solving, conflict resolution,

and negotiation skills and at enhancing mental health via caring for peers and avoiding troublesome and hostile behavior. Techniques of drawing, storytelling, and role-play activities were used. The results exhibited that there was a statistically substantial decline in children mental health difficulties and hyperactivity symptoms. According to parents, the results presented that there was a significant decrease in obsessive and anxious symptoms of their children. However, in a study by Peltonen et al. (2012) using the same program (SMI) on 225 Palestinian children between 10–14 years, the results were contrary to the hypothesis that joining SMI would reduce symptoms and increase friendship quality and prosocial and nonaggressive behavior. Rather, the SMI was effective only in preventing the decline of friendships and prosocial behavior across the intervention period. Similarly, a study by Hasanovic et al. (2009) aimed to investigate whether psychosocial support school program diminished posttraumatic consequences in 336 students in primary and secondary schools in Bosnia and Herzegovina after 1992–1995. The results confirmed a substantial drop in the severity of PTSD symptoms among children who joined the program.

Cognitive behavioral interventions are based on improving children's cognition about trauma by re-shaping painful traumatic experiences and memories to suit children's thinking – thus providing a logical explanation of traumatic memories and giving new meaning to those experiences. Cognitive behavioral techniques are built on CBT, which are vital and based on an effective scientific theoretical framework (Peltonen & Punamäki, 2010). Such techniques use interpersonal psychotherapy, trauma grief psychotherapy and the integration of creative expression activities with CBT. In addition, elements of CBT interventions for trauma are psychoeducation, stress management techniques, creation of a new story of the disturbing incident, and utilizing cognitive processing (Vickers, 2005). Such elements include ways to understand trauma, put painful memories in a comprehensive frame, enhance coping skills, and incorporate blurred thoughts and feelings into a suitable framework (Peltonen & Punamäki, 2010). Layne et al. (2001) used a manualized trauma/grief-focused group psychotherapy protocol for war-traumatized fifty-five secondary school students in Bosnian based on five therapeutic foci: traumatic experiences, trauma and injury reminders, postwar difficulties, mourning and the interaction of trauma and grief, and developmental impact.

In a randomized clinical trial, Murray et al. (2015) evaluated the effectiveness of 10 to 16 sessions of trauma-focused cognitive behavioral therapy (TF-CBT) to deal with trauma and stress-linked symptoms among 131 highly traumatized children aged 5–18 years in Zambia. They concluded that the program significantly decreased trauma and stress-related symptoms and improved functioning in these children. Smith et al. (2007) implemented a study to measure the efficacy of a 10-week course of individual CBT individual trauma-focused cognitive-behavioral therapy (CBT) for treating posttraumatic stress disorder (PTSD) in 24 children (8–18 years). The results showed significant diminishing of symptoms of PTSD, depression, and anxiety, with substantial better functioning and this enhancement was sustained at the 6-month follow-up.

5.3 Factors Contributing to Effectiveness of Psychosocial Interventions

Research has acknowledged factors or preconditions that facilitate the effectiveness of psychosocial interventions. Such factors emphasize (first) interventions designed to the needs of children, their families, and the community at large, (second) evidence or theory-based elements or tools based on what is known about the negative impacts and protective elements in war, (third) comprehensive interventions with cooperation of various bodies. The Interventions often concentrate on promoting personal characteristics (e.g., social support, pro-social behaviour, self-esteem, emotional regulation, coping, and hope (Purgato et al., 2018). In a study by Peltonen et al. (2012), the school mediation program was used to enhance children's friendships and prosocial behavior and reduced aggressive behavior among school-aged children. Further, interventions comprise procedures from evidence-based psychotherapeutic programs. Such Techniques include; trauma-focused cognitive behavioural therapy, and the insertion of further methods designed to founding strengths, such as creative expressive practices (e.g., drama, dance, music, art, and games), social support-building activities (e.g., cooperative games, trust-focused activities, sharing problems, and coping approaches), or mind–body oriented skills (e.g., meditation and breathing exercises) (Betancourt et al., 2013; Jordans et al., 2016).

Interventions are based on two main intervention considerations; the first is *targeted interventions*, which are CBT-based treatments for children whose PTSD and depression score symptoms exceed the clinical cut-off. The second is *universal interventions*, aimed at promoting children's resilience and possibly prevent the traumatic events resulting in mental health symptoms. Moreover, interventions among war affected children yielded positive results at the level of *promotion*, *prevention*, and *treatment* in reducing symptoms and improving well-being, resilience and coping.

Promotion programs, which focus on life skills and social and emotional teaching and provide primary interventions that deal with the emotional and behavioral problems of children, can yield long-term constructive effects. Such programs can enhance a child's emotional and social performance, positive health behavior and their academic achievement. For example, Loughry et al. (2006) reported that after-school leisure activities executed over one year had a substantial positive influence on Palestinian children and adolescents' externalizing and internalizing problem scores and enhanced parental support due to parental participation in the systematic activities. In a study by Gupta and Zimmer (2008), it was that a general intervention program of trauma recovery and fun activities of 8 sessions over 4 weeks with 306 children in Sierra Leone to be effective in diminishing intrusion and arousal symptoms, and nightmares and increasing optimism, concentration. Jordans, Tol, and Komproe (2011) applied a 15-session manualized Class-Based Intervention (CBI) to war-affected children, targeting resilience, promoting effective coping, and thwarting mental health difficulties. They found that the CBI was found to be successful in promoting prosocial behaviour among girls and reducing hostility among boys. In a study on children in Bosnia, Dybdahl (2001) implemented a psychosocial intervention programme that

aimed to encourage emotional, social and intellectual growth and well-being of children. The mothers were provided information about child development, social communication and trauma. The programme comprised of weekly group meetings for mothers over a five-month period and concentrated on encouraging good mother–child interaction, where mothers steered constructive discussions, shared experiences and supported each other. The program was found to have positive impact on children.

Prevention programs may prevent deterioration of a child's mental health and improve academic achievement and self-esteem by securing a safe and supportive environment, providing basic needs and security, and protecting a child's rights (Persson & Rousseau, 2009). Research found that most of the preventive interventions were conducted in school settings (Brown, Graaff, Annan, & Betancourt, 2016). School-based programs indicated promising advances in child mental health, shown by lower PTSD and distress symptoms and by improved protective aspects such as peer and family support (Ertl & Neuner, 2014; Jordans et al., 2016; Rolfsnes & Idsoe, 2011). For example, using the life skills and resilience school-based interventions, Srikala and Kumar (2010) reported positive effects on students' mental health and wellbeing, specifically enhanced self-esteem. Moreover, in a review by Purgato et al. (2018), an effect of school-based interventions was found on coping, hope, and social support as well as reducing functional impairment. Interventions have positive results for children that can depend on higher levels of protective factors and who should deal with lower levels of risk factors.

Moreover, a study using the Coping-Enhancement Protocol was aimed to increase resilience, coping efficacy, and ideal emotion regulation among 983 war affected children used techniques of narrative and play activities, psychoeducation, and sharing and restructuring traumatic experiences. After the intervention, children-trauma related symptoms were significantly decreased (Wolmer, Hamiel, Barchas, Slone, & Laor, 2011). In addition, Tol et al. (2008) employed a manualized, five-week school-based group intervention for Indonesian children exposed to political violence. The intervention involved trauma processing activities, cooperative play, and creative-expressive items. The intervention decreased PTSD for girls and helped preserve hope for boys. However, Thabet, Vostanis, and Karim (2005) studied 9–15 years old Palestinian children living in refugee camps in Gaza using elements such as expression of experiences and motions through storytelling, drawing, free play and role-play; education about symptoms. They found that group crisis intervention had no impact in reducing PTSD and depression symptoms among.

Similarly, a psychosocial intervention in Nepal of 11–14 years old war-affected children improved prosocial behavior among girls and lowered psychological difficulties and aggression among boys and increased hope for older children (Jordans et al., 2010). In Peltonen et al. (2012) children joined school mediation intervention (SMI), where the intervention could prevent the deterioration of relationship quality and prosocial behavior. Also, in randomized controlled trial study of 314 northern Ugandan adolescents (aged 14–17 years) by Bolton et al. (2007), it was found after implementing 16-weekly sessions that

group interactive psychotherapy was successful in reducing depression symptoms among adolescent girls troubled by war and dislocation. Similarly, in a cluster randomized trial study by Tol et al. (2012), 399 children were assigned to a preventive school-based mental health program in a war-affected context in northern Sri Lanka. The intervention contained of 15 manualized sessions over 5 weeks of cognitive behavioral procedures and creative expressive items. The researchers concluded that interventions could successfully enhance aspects of psychological wellbeing and posttraumatic stress-related symptoms in some children. In a cluster randomized trial by Tol et al. (2014), 329 children in war-affected Burundi (aged 8 to 17) participated in a 15-session school-based intervention. The intervention had steady preventive benefits, but these effects are depending upon individual (i.e. age, gender) and contextual (i.e. family functioning, state of conflict, displacement) factors.

Treatment programs mostly target PTSD, depression, anxiety, somatic symptoms, morbidity and behavioral problems for children. A Specialized mental health care by mental health specialist, "Traumatic Grief Psychotherapy" was used in Palestine and showed improvement in PTSS and depressive symptoms (Staples, Atti, Ahmed, & Gordon, 2011). Moreover, a Teaching Recovery Technique (TRT), designed on the basis that ER is linked to enhanced mental health and psychosocial functioning targeting emotion regulation (ER) and coping abilities, concluded that the program was effective as a reduction in ER was linked with enhanced mental health and psychosocial well-being (Punamäki, Peltonen, Diab, & Qouta, 2014). Gender-specific results confirmed that girls had greater drop in PTSS in the waitlist control, compared to the experimental group in a classroom-based intervention in Sri Lanka (Tol et al., 2012).

Moreover, Gelkopf and Berger (2009) implemented the ERASE-Stress program to enhance mental health, and to boost social support among 114 war-affected children. The procedures involved training, psychoeducation, reflective practices, mind and body combination, and discussing trauma stories. The outcomes displayed a decline in PTSD, depressive, and somatic symptoms. A school-based quasi-randomized controlled trial of 70 children by Berger, Pat-Horenczyk, and Gelkopf (2007) used an eight-session structured program, "Overshadowing the Threat of Terrorism". The study designed to diminishing elementary children's posttraumatic stress-related symptoms, somatic complaints, and nervousness after exposure to terrorism. The researchers found that, two months postintervention, there was a significant improvement on symptoms of all study measures. Moreover, in a study by Gordon, Staples, Blyta, and Bytyqi (2004), 139 high school students in Kosovo joined a 6-week program using mind-body tactics (included meditation, biofeedback, drawings, autogenic training, guided imagery, genograms, movement, and breathing techniques). The results showed that Posttraumatic stress significantly diminished after involvement in the programs and at follow-up.

Further, Layne et al. (2008) used 17 sessions trauma and grief component therapy with 127 Bosnian adolescents, involving classroom-based psychoeducation, relaxation, reprocessing of trauma experience, reframing, grief processing, problem solving, and

thought and emotion regulation. The results show that the program was generally effective in reducing PTSD, depression, and maladaptive grief after intervention and in a four-month follow-up. Moreover, a Ugandan study (n = 314) showed that a 15-session interpersonal therapy (IPT) had positive impact in lowering depression among girls but did not have an effect on psychosocial functioning of children (Bolton et al., 2007). In a randomized controlled trial study by Betancourt et al. (2014), a 10-session cognitive-behavioral therapy (CBT)-based group mental health program for various symptomatic war-affected youth (aged 15–24 years) in Sierra Leone. The children exhibited substantial postintervention effects on emotion regulation, prosocial attitudes/behaviors, social support, and decreased functional damage, and vital follow-up impact on school attendance and classroom behavior.

Additionally, in a study by Layne et al. (2001), an assessment based on a manualized trauma/grief-focused group psychotherapy protocol for war-traumatized adolescents was based on five healing aspects including, traumatic experiences, trauma and loss cues, postwar difficulties, mourning and the interaction of trauma and grief. Fifty-five secondary school students from 10 Bosnian schools joined the program. The evaluation produced initial but promising outcomes, including diminished psychological pain and constructive links between distress reduction and psychosocial adjustment. O'Callaghan et al. (2014) implemented a study on 159 war-affected children and young people (aged 7–18) from north-eastern DR Congo. Participants were randomized (with a caregiver) to 8 sessions of a group-based community-psychosocial intervention. After intervention, participants reported significantly lower symptoms of post-traumatic stress responses. Furthermore, at 3-months follow-up, they reported large enhancements in internalizing symptoms and modest improvements in prosocial scores.

6 Theory, Components, and Effectiveness of TRT

The TRT is a manualized intervention technique with organized sessions where the counselors use an Arab-language protocol. In addition, the TRT program was implemented to meet the needs of war-impacted children in cultural specific aspects. The TRT contains evidence-based tactics based on the cognitive behavioral therapy, and designed to help children gain positive coping skills, control, and emotion regulation by story, imagery, and body- and mind-related and psycho-educational procedures. The sessions begin with warming up, overview to the theme, and going over of homework. It is central to produce a sense of protection and to offer functional techniques to control devastating emotions and difficult experiences, to distinguish ones' own and others' stress reactions, and to request social helpers, and eradicate numbed feelings.

The procedures involve, for example, safe place techniques, relaxation, discussing drawing terrifying, and troubling experiences and dreams. Problem solving, storytelling, and role play methods are also used. Knowledge about reactions and bodily and verbal regulation of horror and terrible flashbacks are central aspects of the sessions. Moreover, children are trained to enhance their sleeping patterns and to ease their devastating emotions. Controlling breathing and somatic complains are presented in comfortable and lively ways by training children to connect their bodily feelings with the traumatic experience and emotions. The techniques are designed to improve children's symbolic and verbal processing of traumatic experiences. After each session, children are assigned homework engaging other family members. The home tasks consist of, for example, training on the screening method, discussing dreams and nightmares with parents, and drawing a happy conclusion to their dreams (Smith, Dyregrov, & Yule, 2000). The TRT utilizes a child's social resources and joint experiences in facilitating the recovery of children from severe traumatic experiences. The intervention also provides psycho-education about trauma and its reactions in joyful and practical ways, trains positive coping skills, acknowledgement and control of emotions, and enables integrating devastating traumatic recollections. Children are taught to communicate, symbolize, and discuss their troubling experiences, and overcome trauma-related symptoms.

In Qouta et al. (2012), it was shown that among 482 war-affected Palestinian children, the TRT could decrease children's mental health difficulties in specific groups. Likewise, the TRT was functional in reducing mental health difficulties among refugee children in Britain (Ehntholt, Smith, & Yule, 2005) and Jordan (Ali & Snell, 2007). In the same vein, Ehntholt et al. (2005) found statistically significant – but clinically modest – symptom drop post-intervention among refugee children (N = 26; 11–15-years old). Also, an RCT among Palestinian children (N = 113; 11–14-year-olds) indicated that the TRT was effective in dropping PTSD, uncontrolled grief, and depressive symptoms in pre-intervention and post-intervention situations (Barron, Abdullah, & Smith, 2012).

7 Study Context

The context of the present study is the long-term Israeli-Palestinian conflict and its consequences, specifically on children. Children joined in this study in the aftermath of the War on Gaza 2008/09 (in Israeli military terms 'Operation Cast Lead'). This 23-day war involved land, air, and naval artillery and claimed at least 1417 Palestinian lives, including 313 children, and injured 5303, 1606 of whom were children. Four thousand houses were demolished, and 16,000 houses were partially damaged. Approximately 100,000 people were evacuated and had to search for refuge in the besieged Gaza Strip (UNHRC, 2009). During the three-week war Israel attacked using military power such as white phosphorous bombs and experimental weapons (Steinberg & Herzberg, 2011; UN OCHA, 2009). The bombing caused terror for children and their families due to immense human and material damage, life threat, and failure to escape from the restricted area. Centers of worship and education were targeted, and borders were closed, depriving the population their sense of protection or refuge.

The Gaza Strip is a small area of 362 square kilometers inhabited by nearly two million people. Under the external occupation of Israel, children and their families are severely impacted by ten years of Israeli military siege and by an international economic boycott (World Bank report, 2015). The wars and military operations since 2006 have caused destruction of hospitals, schools, and public areas. Access to clean water and regular electricity is almost entirely absent (UN OCHA, 2009). The Palestinian–Israeli conflict is continuous, with times of acute war throughout the area of Israel and the Palestinian territories. Living conditions are extremely difficult in Gaza, where the 2007 blockade has raised unemployment and caused scarcities of basic goods. The Palestinian territories have poor infrastructure with basic, congested, schools and hospitals. A considerable part of the population experience poverty inside refugee camps.

AIMS OF THE STUDY

Traumatic experiences have adverse consequences on the social and emotional growth of children, which ultimately risks children's mental health. On the other hand, some aspects may continue unbroken and act as protective resources for children's mental health and enhance their resilience to circumvent the problems subsequent traumatic war experiences. Thus, it is imperative to examine the efficacy of psychosocial interventions in improving social relations and resilience of war-affected children, as well as the protective role of individual characteristics (Emotion Regulation) in promoting children's mental health. The study setting provided a sample characterized by exposure to war trauma and violence in the aftermath of a major war experience.

In this thesis, we tested the effectiveness of psychosocial interventions in improving social relations and resilience, which will ultimately improve the mental health and development of children. Further, we investigated the role of ER in protecting children's mental health in the situation of war trauma.

Particularly, (Article I and Article II) examined the effectiveness of psychosocial intervention of TRT on children's social relations and resilience as well as (Article III) investigated the role of emotion regulation in improving children's mental health. Specifically, the studies tested the impact of intervention on social relations (peer and siblings) and broad social context (personal resilience and family) as well as the protective role of individual attributes (Emotion Regulation) on mental health of children.

The first question (Article I: Diab et al., 2014) investigated the effectiveness of the TRT psychosocial intervention in improving social relations and whether these enhanced social relations would mediate the intervention effect on mental health among Palestinian children. As shown in Figure 1, we hypothesized that participating in the intervention will enhance peer and sibling relations directly subsequent the intervention and over the long-term. Moreover, we hypothesized that engaging in Teaching Recovery Technique (TRT) is linked with reduced symptoms of PTSD, depression, and psychological distress, and enhanced psychological wellbeing via better peer and sibling relations.

The second question (Article II: Diab et al., 2015) examined the effectiveness of a psychosocial intervention founded on TRT in promoting resilience among war-affected children. In addition, the study investigated the moderating role of family factors in affecting children's resilience. We conceptualize resilience as the presence of good mental health despite exposure to war trauma. The resilient children are those who have high levels of mental health despite their exposure to severe war trauma. The traumatized

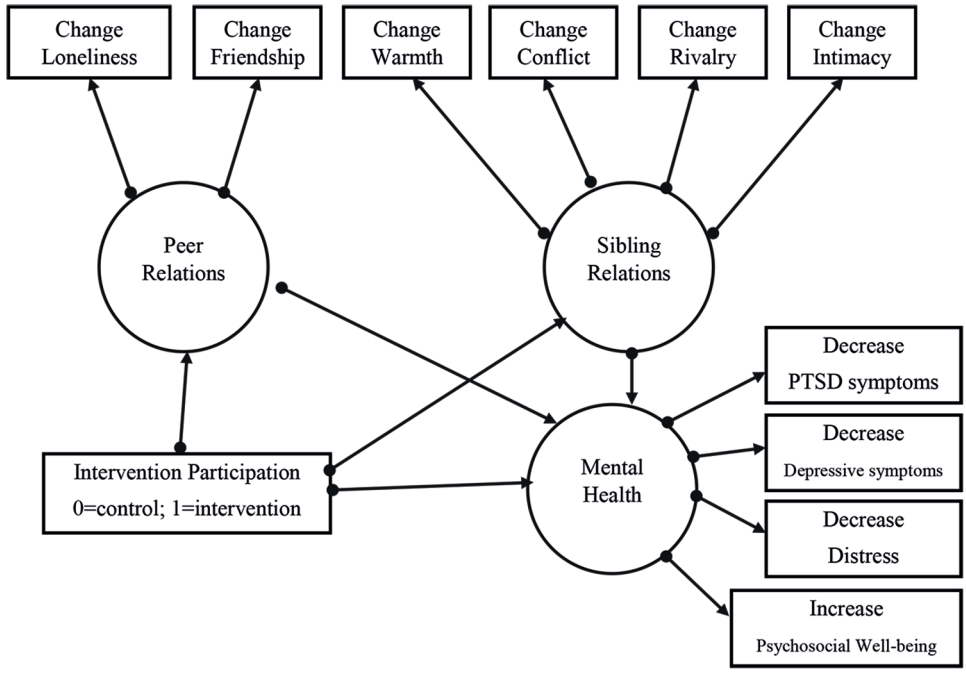

Figure 1. Hypothesis of the intervention impact and the mediating factor of peer and sibling relations on mental health

children, in turn, have been exposed to severe war trauma and show poor mental health. Good mental health was indicated by high levels of psychosocial wellbeing and prosocial behavior. We hypothesized that the intervention using TRT would yield positive outcomes in enhancing children's resilience. Regarding family aspects, we hypothesized that positive family relations (specified by availability of maternal secure attachment and warm family atmosphere) are associated with a greater increase in the prevalence of resilience. We also test whether children's gender and the warm family relations moderate the effect of the intervention on resilience.

The third question (Article III: Diab et al., 2017) was designed to (*firstly*) test the protective (moderator) role of diverse ER tactics among Palestinian children and the direct links between ER and several mental health consequences. The ER was conceptualized as children's use of intrinsic, extrinsic, controlling, and distracting strategies to regulate intensive feelings of sadness, fear, and anger (Rydell et al., 2007). The criterion for protective role is that exposure to severe war trauma is not connected with children's mental health, represented by PTSD, depressive and psychological distress symptoms, and by psychosocial well-being, when children employ functional ER. *Secondly*, we tested whether the protective function of ER differed between boys and girls or if there were gender differences in the direct associations between ER approaches and mental health.

MATERIALS AND METHODS

8 Participants and Procedure

8.1 Participants in Article I & II

The participating children were enrolled from Palestinian schools in Gaza-Palestine after the Gaza War (2008–2009) to join in psychosocial interventions designed to prevent harmful trauma consequences. As shown in Figure 2, the sample comprises of 482 children of 10–13-year-olds [mean (M) = 11.29, standard deviation (SD) = .68; 50.6 percent boys]. Children were randomly allocated either to the intervention (n = 242; TRT) group or to the control-waiting list group (n = 240). As shown in Figure 3, evaluations were at baseline (T1), at postintervention two months later (T2), and follow-up six months postintervention (T3).

8.2 Participants in Article III

The participants were 482 Palestinian boys (50.6%) and girls (49.4%) who were 10–13 years old (M=11.29, SD=.68). They represent the baseline group of a randomized controlled study of the effectiveness of a psychosocial intervention among war-affected children by Qouta et al. (2012). The clustered random sampling was conducted in two areas (North Gaza and Gaza City) of the Gaza strip that were the most severely damaged and bombarded during the 2008–2009 war on Gaza. In both regions, based on a list of schools given by the Ministry of Education, two schools were randomly nominated. In each of the schools, two girls' and two boys' fifth and sixth grade level classes were randomly sampled (a total of 16 classes).

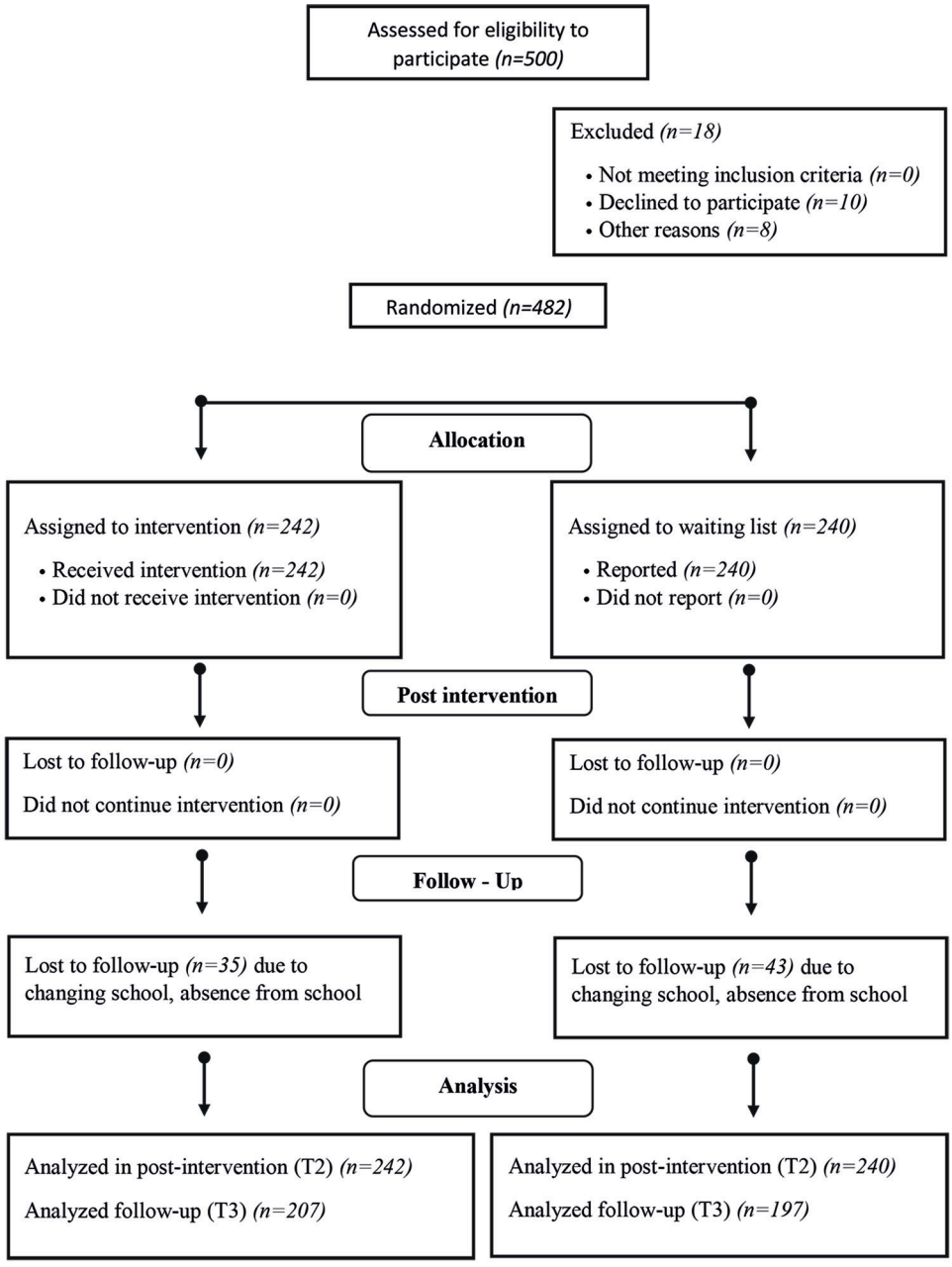

Figure 2. Enrollment and allocation of children to Intervention and Control/Waitlist

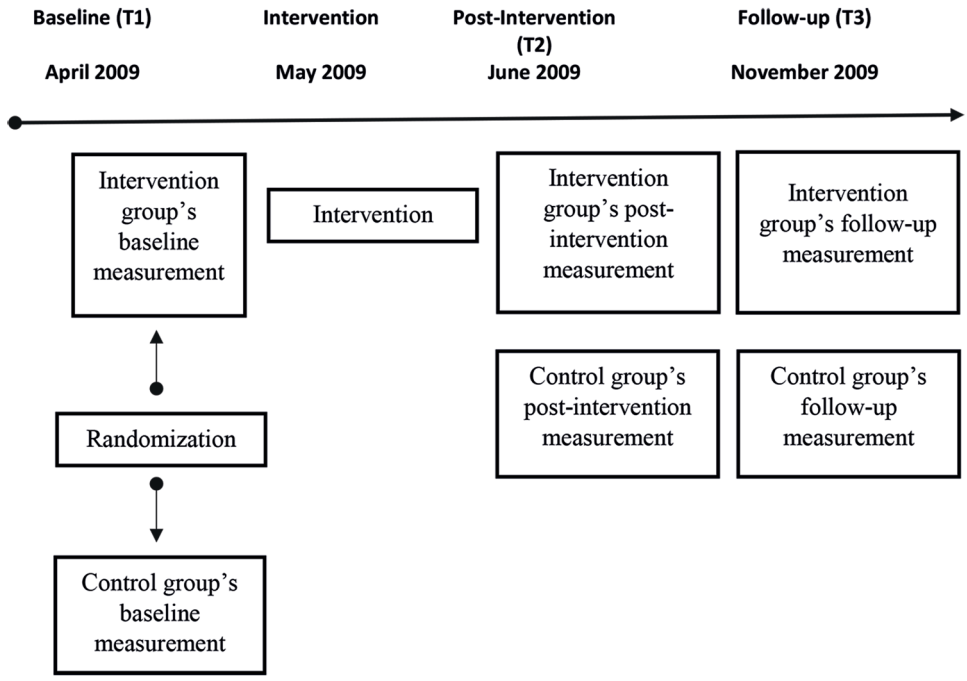

Figure 3. The time of the measurement stages and the intervention

9 Measures

9.1 War Trauma

Traumatic events. The measure comprised of 14 traumatic actions that match the Criterion A of the diagnosis of PTSD in DSM-4 (American Psychiatric Association, 2013). They contain experiencing and witnessing real or endangered significant injury or death. The children stated whether they experienced the events during the war (0 = no, 1 = yes). A total variable was created by summing the yes-answers. In the follow-up assessment (T3), children were also asked whether they experienced any traumatic events after the first assessment. Exposure to one or no form of war trauma were considered as low exposure, while more than one type of exposure was regarded as high. This scale was used in (*Article II*) of this thesis. It provides brief information about children's exposure to traumatic events. Examples of the measure items are; "*I feel sad and grieved for what happened to me; I feel tired and exhausted when I think about the event; I blame myself for what happened to me; what happened caused me a lot of suffering and fatigue*."

War trauma. A trauma event checklist of 42 events was used, capturing Palestinian children's typical experiences during the war on Gaza 2008/2009 and the military occupation. It is based on earlier checklist used in Gaza (Qouta, Punamäki, & El-Sarraj, 2005), and covers (a) child-targeted violence (12 events, such as being wounded and beaten), (b) family-related losses (10 events, such as death of father, mother, siblings or friends, loss of home and being detached during the war), (c) witnessing horrors (12 events, such as witnessing people being injured or dying, and seeing body parts) and (d) physical devastation (8 events, such as neighbourhood was destroyed). Children stated whether they had been exposed to each event (1=yes; 0=no) during the war or prior, and a total variable was gathered by counting "yes" answers.

The trauma event checklist was used in (*Article III*) of this thesis to measure personal and family targeted losses, witnessing horror, and material destruction. This checklist is comprehensive and provides details about war trauma events.

9.2 Mental Health

Post-traumatic stress symptoms (PTSS). The 13-item Children's Revised Impact Event Scale (CRIES; Dyregrov & Yule, 1995), based on the DSM-4 (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition), involves the three main aspects of post-traumatic stress symptoms (PTSS): re-experiencing (four items), avoidance (four items) and hyper-arousal (five items) symptoms. Children specified on a 4-point scale how often they encountered each symptom during the last 2 weeks (0=not at all, 3=often). Total score

was formed with the α-values of .76. This scale was previously used in Gaza and found to be reliable and valid (Thabet et al., 2007).

Depressive symptoms. We applied the Depression Self-Rating Scale for Children by Birleson, Hudson, Grey-Buchanan, and Wolff (1987). This 18-item self-report tool measures the cognitive, affective and behavioural aspects of depression. Children reported on a 3-point scale whether they experienced each symptom during the last 2 weeks (0=not at all, 2=all the time). The depression score was created with the α-values of .78.

Psychological distress. We used the self-report version of the Strengths and Difficulties Questionnaire (SDQ) by Goodman (1997) to assess emotional, behavioural and relational problems, hyperactivity and prosocial behaviour. Each of the five aspects contains five items. On a 3-point scale, children indicated how well the description apply to them (0=not at all, 1=somewhat, 2=yes, fit well). A total score of psychological distress was created with the α-value of .71.

Psychosocial well-being. The Mental Health Continuum-Short Form (MHC–SF; Keyes et al., 2008) is a 14-item scale to evaluate emotional, psychological and social well-being. It comprises, for instance, positive emotions (I have warm and trusting relationships with others), psychological independence and self-acceptance (I feel happy) and social belonging and unity (the way our society works makes sense to me). The children indicated each item on a 5-point scale stating how often they experienced the feelings or thoughts during the past 2 weeks (0=never; 4=every day). The averaged summed variable was constituted and had α-value of .80.

9.3 Social Relations

Peer Relations. The quality of peer relations was assessed by a questionnaire integrating seven items of the children's loneliness by Asher et al. (1984) and eight items of friendship abilities by Bukowski (2004) scales. Children were required to mark on a 5-point scale how well the descriptions match their relations with peers and school mates (ranging from 0 = not at all to 4 = very well). Two averaged total variables were formed: friendship quality (i.e., 'I can easily find new friends', 'I have good friends that I can share my secrets with') and loneliness in peer relations (i.e., 'I feel alone and rejected by my peers', 'In the school breaks, I don't have anyone to talk to'). The peer questionnaire proved to be valid and reliable among Palestinian children in two prior studies (Diab, 2011; Peltonen et al., 2010). In this study, the loneliness in peer relations and friendship quality measures had Cronbach's α ranging between .69 and .79 from T1 to T3.

Sibling Relations. Relations between siblings were assessed by an 11-item scale by Dunn, Slomkowski, and Beardsall (1994) that entails positive (warmth and intimacy) and negative (conflict and rivalry) relations. Children indicated how often the actions occur in their relations with an older (11 items) and a younger (11 items) sibling using a 5-point scale (ranging from 1 = never to 5 = always). All items of older and younger sibling relationships

associated significantly, and averaged merged variables were calculated by joining the items of both siblings: (1) *warmth in siblingship*, that is, 'We usually laugh and joke together' or 'I miss him/her when he/she is out of the home', (2) *intimacy*, that is, 'I usually tell him/her about my secrets' or 'I play and share games with him/her', (3) *conflict*, that is, 'He/she annoys and teases me' or 'In times, he/she beats me and pushes me', and (4) *rivalry*, that is, 'I feel jealous of him/her when he/she takes all my mother's attention' or 'I feel unhappy or jealous when other children play with him/her ignoring me'. The reliability and validity of the siblingship quality questionnaire has been proven by S.J. Diab (2011) and Peltonen et al. (2010). Cronbach's α-values ranged between .68 and .79 from T1 to T3.

9.4 Resilience

Prosocial behaviour. The Strength and Difficulties Scale (SDQ) by Goodman (1997) gives a 5-item pro-social behaviour measure. Examples are "I usually share toys and school tools with other children" and "I help other people if something bad happens to them or if I see them upset". Children indicated on a 3-point scale how well the event apply to them (0 = not at all, 1 = somewhat, 2 = yes, fits well). The SDQ has formerly been implemented among Palestinian children in Gaza, showing moderate reliabilities but good validity (Thabet, Stretch, & Vostanis, 2000). We applied the cutoff of 3 on a 5-point scale based on the English norms (Meltzer, Gatward, Goodman, & Ford, 2000).

Maternal attachment. This was assessed by the 10-item scale of Willingness to Serve as a Secure Base for the Child by Kerns, Klepac, and Cole (1996). Mothers pointed on a 6-point scale the application of each descriptions to them (1 = not at all descriptive of me, 6 = highly descriptive of me). The phrases were, for example, "I feel a child should be given comfort and understanding when s/he is scared or upset", "I make sure my child knows that I appreciate what s/he tries to accomplish", and "I sometimes tease and make fun of my child" (reverse scored). A total variable was built (α = .68).

Family atmosphere. This was evaluated by the Family Ambiance Scale by Khamis (2000). The seven-item questionnaire measures family members' communication and interaction indicating subjective anxiety, tension, nervousness or relaxation and quietness (e.g., "Very often I am afraid to express myself at home" or "I like to participate in family discussions"). Children assessed how the items describe their family on a 5-point Likert scale. Total variable was built (α = .65).

In *Article II*, resilience was conceptualized by the presence of good mental health despite war trauma exposure. We classified resilient children as those who have good mental health (indicated by high levels of prosocial behavior and psychosocial wellbeing) despite their exposure to severe war trauma. We hypothesized that an increase in resilience was indicated by positive family relationships (represented by good family atmosphere and maternal secure attachment availability).

9.5 Emotion Regulation

Emotion regulation. We applied the Emotion Regulation Questionnaire (ERQ) for Children (Rydell, Thorell, & Bohlin, 2007) that conceptualizes emotionality and strategies of intrinsic (self-regulation) and extrinsic (regulation with the help of adults) ER for sadness, anger, fear and exuberance in settings of school, family and peer relations. Children were presented with 22 vignettes of each emotion (see examples below) and evaluated by a 4-point Likert scale how they would regulate their evoked emotions (1=does not apply to me at all to 4=applies very much to me). We made two modifications to the original ERQ: First, only the negative emotions of fear, anger and sadness were included as they were considered salient for children in post-war conditions (Punamäki, 2014), thus, omitting the exuberance. Second, the original ERQ was meant to measure intensity of regulation, and not the contents of ER strategies that are important to war-affected children (Amone-P'Olak et al., 2007). Accordingly, we examined the dimensionality of the ERQ by a principal component analysis (PCA) with varimax rotation. The PCA served two purposes: Firstly, the tool was used first time in the Palestinian context and we were interested in contents of ER strategies. Secondly, the varimax rotation of the PCA provided ER scores that would not correlate with each other. The results of the PCA revealed four factors, depicting control and distraction as ER dimensions in addition to the intrinsic and extrinsic ER. The four dimensions are Self-focused emotion regulation (five items, Cronbach's α=.82, e.g., "If I get scared, I can calm down on my own"), Control-enhancing emotion regulation (eight items, α=74, e.g., "If I am angry and my teacher tells me to calm down, I can control myself"), Distracting as emotion regulation (five items, α=.60, e.g., "When I am angry, I can think of something that stops me from being angry) and Other-facilitated emotion regulation (four items, α=.68, e.g., "When I am sad, somebody can easily help me cheer up").

10 Statistical Analyses

10.1 Impact and Mediating Role of Intervention (Article I)

To measure the association between peer and sibling relations throughout the three evaluation stages (T1–T3), two-tailed Pearson correlations was used. Similarly, to measure intervention improving social relations, a 2 (group: intervention vs. control) × 2 (gender) repeated-measures multiple analysis of covariance (MANCOVA) with main and interaction effects, was used to examine whether peer and sibling relations would be enhanced during the TRT intervention. Moreover, distinct MANCOVAs were run on two groups of dependent variables of peer relations (friendship and loneliness) and sibling relations (warmth, intimacy, conflict, and rivalry).

Regarding the mediating role of social relations, structural equation modeling (maximum-likelihood estimation; AMOS/SPSS 5, IBM, Soners, NY) was applied to measure the mediating role of enhanced peer and sibling relations between children's involvement in the intervention and changes in mental health variables (PTSS, depressive and psychological distress symptoms, and psychosocial well-being).

10.2 Impact of Intervention and Moderating role of family (Article II)

The information was examined using (Mplus 5.2). Two criteria were applied to illustrate intervention effectiveness. In comparison to the control group and controlling for the baseline level, the intervention group should have statistically significantly (a) higher levels of stated prosocial behaviour and psychosocial wellbeing, and (b) more cases above the prosocial behaviour cut-off at T2 and T3.

Regression analysis was applied to measure the impact of the intervention on the levels of mental health after controlling for the baseline values of the mental health aspects. Poisson regression with robust standard errors was implemented to estimate the effect of the intervention on the proportion of children having a normal level of prosocial behavior. In addition, the roles of parental acceptance and family atmosphere in moderating the intervention effectiveness were measured by counting the variables and their interaction with the intervention variable to the regression equations.

10.3 The Moderating Role of Emotion Regulation (Article III)

To describe background variables and exposure to war trauma among boys and girls, $\chi 2$ statistics were applied. Primary associations between variables was measured using Pearson moment product correlations.

Stepwise linear regression models were applied to measure the role of ER strategies in protecting children's mental health from adverse war trauma effect. The dependent variables were PTSD, depressive and psychological distress symptoms, and psychosocial well-being. The first step included control variables of age and gender, and the second step included the sum of war trauma. In the third step, the four-dimension variables of ER strategies were entered, and in the final step, the four corresponding interaction terms between war trauma and ER variables were entered to assess the possible moderating effects. The ER variables (self-focused, control-enhancing, distracting and other-facilitated) were the PCA scores in order to avoid the inter-correlations between these independent variables.

The same regression models were run separately on the boys' and girls' groups to analyze whether the protective feature of ER in children's mental health and direct associations were gender-specific.

The Benjamini–Hochberg procedure was used to correct the significance levels against false positive discoveries in multiple tests. The non-independence of observations can cause biases due to the reduced sample variation. The clustering biases were measured by estimating the intraclass correlations (ICC) within school classes and their design effects (DEFF) for the regression coefficients concerning war trauma, ER and mental health variables.

11 Ethical Considerations

The research study was approved by the government in Gaza. Approval was also obtained from the Islamic University of Gaza and the Gaza Community Mental Health Programme. The participants gave their informed verbal consent and parents have given informed consent as well for participation of their children. The participants who needed more psychological intervention were referred to specialized services. The research group followed the ethical standards of the American Psychological Association (APA, 2009). The authors had no conflicting interests.

RESULTS

12 Psychosocial Intervention and Social Resources (Article I)

The research aim was to evaluate the effectiveness of the TRT psychosocial intervention in improving social relations; and, whether these enhanced social relations would mediate the intervention effect on mental health among Palestinian children.

To measure intervention effectiveness, we hypothesize, first, that loneliness declines and better friendship quality rise only in the intervention group from baseline (T1) through postintervention (T2) to six-month follow-up (T3). We further hypothesize, in siblingship, warmth and intimacy would rise and rivalry and conflict drop only in the intervention group through the T1–T3 assessments. regarding the mediating role of the social relations, we hypothesize, that TRT enrollment is linked with diminished symptoms of PTSD, depression, and psychological distress, and improved psychological well-being through enhanced peer and sibling relations.

Results concerning intervention enhancing social relations indicate that the only intervention effect was indicated for sibling conflict [group × change – interaction effect, $F(1, 482) = 4.42$, $p < .001$, $\eta 2 = .06$]. However, our hypothesis of sibling conflicts declining in the intervention group was not verified, even though conflicts did not rise as they did among controls. Further, the significant group × gender × change – interaction effect, $F(2, 480) = 3.95$, $p < .05$, $\eta 2 = .02$, further indicated that siblingship conflicts raised, specifically among boys, in the control group.

Regarding the intervention impact on other social relations, they were gender-specific, shown by significant group × gender × change interaction effects for loneliness, $F(2, 485) = 8.50$, $p < .0001$, $\eta 2 = .05$, and sibling rivalry, $F(485, 2) = 5.86$, $p < .01$, $\eta 2 = .03$. Results demonstrated that loneliness would decline in the intervention group among boys, but not among girls. Further, the hypothesized reduction of sibling rivalry in intervention group happened, in turn, only among girls. Further, results illustrate an overall weakening in positive sibling relations. As opposed to our hypothesis, the intervention was ineffective in preventing that deterioration.

Results regarding the mediating role of social relations – the model of direct association between intervention and mental health change, emphasized that TRT-psychosocial intervention substantially declined children's mental health symptoms. Moreover, improved peer relations somewhat mediated the TRT intervention effect on children's

mental health, and that enhancement in peer relations was also largely associated with good mental health.

However, against our hypothesis, the positive sibling relations enhancement was associated mainly with children's good mental health but did not serve as a mediator.

13 Psychosocial Intervention and Resilience (Article II)

The usefulness of a psychosocial intervention relying on TRT in promoting resilience among war-affected children was first examined. Second, the moderating role of family aspects in the intervention affecting children's resilience was tested.

We hypothesized that the level of resilience and the prevalence (%) of the resilient children would rise from baseline (T1) across the end of intervention (T2) and six months follow up (T3) just in the intervention group. regarding family variables, we hypothesized that positive family relationships (specified by availability of maternal secure attachment and warm family atmosphere) are linked with more rise in the resilience prevalence.

Contrary to our hypothesis, intervention effect on resilience, indicated that the intervention was not associated with statistically substantial increase in the level of wellbeing or prosocial behaviour among children who indicated exposure to two or more forms of trauma. Rather, the intervention was statistically mainly associated with a decline in the children above the cutoff score of prosocial behaviour. The negative impact was not statistically significant at T2; but, at six-month follow-up (T3), the impact was statistically significant. The results indicate that the intervention increased the proportion of traumatized children (decreasing the proportion of resilient children) based on the criterion of prosocial behaviour.

Further, contrary to our hypothesis, the intervention impact was not moderated by mother's acceptance and willingness to serve as an attachment figure, nor by family atmosphere. In other words, there were no statistically significant impact of the intervention or its moderation among children with exposure to one or no forms of war trauma.

14 Emotion Regulation and Mental Health (Article III)

The research aim was to measure the protective (moderator) role of various ER approaches among Palestinian children and the direct associations between ER and several mental health indicators. First, to measure the protective role of ER, we hypothesized that, when children employ functional ER, exposure to severe war trauma does not associate with children's mental health, represented by PTSD, depressive and psychological distress symptoms, and by psychosocial well-being. Second, we measure whether the protective function of ER differs between boys and girls or if there are gender variations in the direct associations between ER strategies and mental health.

The results of Pearson product moment correlations between war trauma, ER dimensions, and mental health confirm that total war trauma, particularly child-targeted violence and material destruction, were positively associated with control-enhanced ER for both genders. Further, total war trauma and child-targeted violence was correlated with distracting ER for girls. additionally, among boys, family-related losses associated positively with distracting ER, but negatively, with other-facilitated ER.

Furthermore, regarding mental health, substantial positive correlations were evidenced between total war trauma, particularly child-targeted violence, and depressive symptoms for boys and girls. Also, family losses positively correlated with boys' material destruction and with girls' depressive symptoms. War trauma, especially child-targeted violence, family losses, and material destruction correlated positively with PTSD symptoms, only for girls. Unexpectedly, among boys, child-targeted violence positively correlated with psychosocial well-being. Finally, significant positive correlations were indicated between control-enhanced ER and depressive symptoms for both genders, and PTSD symptoms for girls. On the contrary, other-facilitated and self-focused ER were negatively correlated with depressive symptoms for boys and girls.

Regarding the protective function of ER, the results of regression analysis of war trauma and ER strategies on children's mental health indicated highly significant models ($p<.0001$), but relatively low explained variances (8–16%). The significant interaction effects between war trauma and ER were found only for PTSD symptoms and psychosocial well-being. Yet, ER strategies were directly significantly associated with children's mental health. Results proved main interaction effects between war trauma and self-focused ER on PTSD symptoms, and between war trauma and other-facilitated ER on psychological well-being. We concluded that none of children's ER strategies could fulfill the protective function of preserving good mental health following to exposure to elevated level of war trauma.

Main effects revealed that high level of control-enhancing ER was associated with higher levels of PTSD, depressive and psychological distress symptoms, and with a lower level of psychosocial well-being. Distracting ER was associated with a higher level of PTSD symptoms, whereas a high level of self-focused ER was associated with lower levels of depressive and psychological distress symptoms. Finally, other-facilitated ER was associated

with a higher level of psychosocial well-being. In conclusion, results confirmed significant direct associations between ER and various mental health outcomes, except between self-focused ER and psychological distress symptoms in the whole group.

Further, exposure to elevated level of war trauma was associated with increased levels of PTSD, depressive and psychological distress symptoms, but did not associate with psychosocial well-being. Regarding children's age, older children (12–13 years) had an increased level of psychosocial well-being than younger ones (10–11 years).

Regarding gender in ER and mental health, the results of regression models for boys and girls show that the models were significant ($p<.02$ – $p<.0001$). Results indicated that the moderating effects of self-focused ER and other-facilitated ER were gender-specific, and in detail, valid only among boys. In fact, self-enhancing ER was non-protective, as exposure to war trauma was less likely to associate with PTSD symptoms, if boys used a low level of self-focused ER. Results further displayed significant War trauma × distraction ER interaction effects on PTSD among boys. Moreover, when boys are exposed to low war trauma, the low use of distracting ER was associated with a low level of PTSD symptoms, but when exposed to high war trauma, both low and high levels of distracting ER were associated with high PTSD symptoms. Significant interaction effects were evidenced between war trauma and other-facilitated ER on psychological distress symptoms for girls, and on psychosocial well-being among boys.

Similarly, in relation to the main effects between ER and mental health, control-enhanced ER was associated with higher levels of depressive and psychological distress symptoms, and lower levels of psychosocial well-being for both girls and boys, and with a higher level of PTSD symptoms among girls. Also, self-focused ER was associated with lower levels of depressive symptoms among boys and girls, and with a lower level of psychological distress for girls.

DISCUSSION

This thesis is about the effectiveness of psychosocial intervention in enhancing social relations and resilience; and the protective role of emotion regulation among Palestinian children. The thesis investigated the effectiveness of the TRT psychosocial intervention in promoting social relations, mental health, and resiliency among Palestinian children (Article I & Article II). The thesis also examined the protective role of emotion regulation on children's mental health (Article III).

Children living in war trauma and military conflict experience ample types of conceivably traumatic events that affect their psychological wellbeing and may encounter health problems, dislocation, and loss of family and support systems. Specifically, children in the Gaza Strip have been facing and are suffering from an array of trauma and violence. The persistence of such problems into adulthood destructively disturbs their future (Barber, McNeely, Olsen, Belli, & Doty, 2016; Thabet & Vostanis, 2011). Sustaining or treating mental health is mainly problematic in this unsafe atmosphere, full of traumatic reminders (Abu Jamei, 2016). This places children at significant risk for the development of mental health difficulties.

Children are constantly reminded of the trauma they have encountered. For example, gunshots are heard every day, and drones buzz overhead for days. These sounds, the remains, and the uncertainty are reminders that "there's a real threat to life" (Abu Jamei, 2016; Thabet & Vostanis, 2015). Constant feelings of fear, uncertainty, and anxiety distress most Gazans, particularly children, and the damaged buildings and destroyed neighborhoods and the persistent cues of death of friends and loved ones have a devastating effect (Abu Jamei, 2016).

In periods of conflict, safeguarding children's basic needs – including love, food, shelter and health care – is crucial in shielding children from mental health difficulties. Palestinian children, similar to others confronting military danger and oppression, feel accountable for the dignity, justice, and security of their community and families.

To be able to trust results, it is crucial to tailor interventions to the culture. For example, in Palestine, based on research that proved the effectiveness of culturally sensitive programs, a school mediation intervention was adapted to the Gaza context. This program was implemented extensively at schools aiming to reduce violence among children and to promote mediation between peers. Another program that is being used in Gaza is the psychodrama protocol for children, which is modified to take the culture into consideration. In the Palestinian context, when a child develops certain psychopathology,

he or she is served by specialized mental health services in community centres. These children are generally referred for these specialized interventions by the schools or grassroots psychosocial organizations.

Parents find themselves in frequent ways incompetent of safeguarding their children (Abu Jamei, 2016). For parents, it is a shame to witness their children agonize and feel helpless to protect them from war trauma, devastation, and horror (Punamäki, 2014; Qouta, Punamäki, & El-Sarraj, 2008). Over the years, due to the continuing trauma, people have been fatigued of their resources: economic, financial, and homes (Altawil et al., 2008; Betancourt & Khan, 2008).

Social unity is one of the significant moderating factor that support people to live through very tough times (Werner, 2012). Palestinian families in the Gaza Strip are large, and people display strong commitment to each other. They have a sturdy concept of family and community and normally stick to traditional principles of gender roles. The extended family remains to play a substantial shielding role in the Palestinian society (Punamäki, 2014; Qouta & El-Sarraj, 2004). Generally, Palestinian children succumb to the authority of their parents, and older members of the family have greater positions (Qouta & El-Sarraj, 2004). In situations of ongoing conflict, such as the Middle Eastern Islamic culture of the Gaza Strip, the stories, community representations, and meanings of traumatic experiences are regarded as joint family and community responses and responsibility. Palestinians belong to a culture that values shared ambitions, warm social relations, and religious commitment.

The widespread focus on trauma and its assumed consequence of psychopathology does not depict a comprehensive image of Palestinian children's experiences. An emphasis on trauma follows the traditional emphasis on a Western, deficit-constructed medical model, where the pattern depends upon negative characteristics of children's development (Akesson, 2014; Peltonen & Punamäki, 2010). Research shows that victimizing, individualizing and medicalization of exposed children sidetracks the attention from their sense of empowerment, resilience and normal potential for recovery. Subsequently, the actual sources of danger, such as political injustice, violations, and abuse, are forgotten and individuals are considered accountable for their own suffering (Afana, Pedersen, Ronsbo, & Kirmayer, 2010; Summerfield, 1999; 2002).

15 Psychosocial Intervention Promoting Social Relations

Our results exhibited that sibling conflicts increased in the aftermath of major war among children in the control group while the conflict level remained steady in the intervention group in the follow-up. Moreover, the TRT lowered sibling rivalry, particularly among girls. However, the TRT did not improve positive sibling relations, represented by warmth and intimacy. This outcome is supported by research indicating weakened human relations from protracted military conflicts (Hodes et al., 2008). In situations of recurrent war, children may develop a sense of anticipation of further danger, clinging to their parents out of fear of elevated violence or loss of significant family members.

War and political conflict can interrupt some of the basic social functions, such as protecting children and increasing trust in security and human virtues. Further, the disturbances occur in social aspects, such as loss of life, dislocation, separation, damage of social support and networks (Eggerman & Panter-Brick, 2010; Khamis, 2012). The situation of political violence causes a state of family incompetence, mainly when parents are incapable to guard their children and helpless (Punamäki, 2014). When war disrupts communities, the family unit is often debilitated through separations, and the protective family environment is compromised. Likewise, war and life-threat are known to drain and complicate family relations. For example, parents may feel guilty for not being able to protect their children – due to inability of family members to share their experiences – and the children may, in turn, not dare to seek assistance from their anxious parents (Punamäki, 2014).

Like other cognitive-behavioral interventions, the TRT designed to give children a chance to share and seek support in their normal social networks. Our findings emphasized the presumed role of enhanced peer relations in mediating the intervention effect on children's mental health. In other words, joining the intervention decreased mental health difficulties by enhancing peer relations. This is supported by research indicating that harsh trauma may lead to positive peer relationships, which can yield feelings of safety and togetherness (Baker et al., 1999; Barber, 2001; Smith, Perrin, Yule, Hacam, & Stuvland, 2002). In other words, during exposure to war trauma individuals unite to handle difficulties and often demonstrate self-sacrifice and willingness to share and care for others. However, this is in contradiction with findings that warmth and sharing with siblings brings a deeper feeling of protection than support provided from friends or peers, as per the saying "Blood is thicker than water", arguing that family relations are superior to other relations (i.e. peer relations), particularly under threat (Barber, 2001; Peltonen et al., 2010).

The result that TRT psychosocial intervention managed to reduce some negative peer and sibling relations is vital. In war conditions, good relations with peers and siblings can safeguard against the consequences of war trauma. Research concluded that satisfactory social support and good relationships and networks would serve various roles in situations of war and military violence (Betancourt & Khan, 2008). For example, Barber (2001)

found in a large representative sample that the intifada experience had adverse effects, only for youth with poor quality peer relations. Further, nurturing parents enhanced growth and emotional wellbeing of Palestinian children from the harsh effect of military violence (Barber, 2001). Likewise, research suggested the key role of ideological commitment and the acknowledgement of shared meaning in settings of conflict and political violence (Barber, 2001; Punamäki, 1996).

The outcome that enhanced peer relations somewhat mediated the intervention effect on mental health stresses the key nature of social resources in trauma. Strong human affiliation can give key information and enhances recovery and allows the development of a supportive resources in the context of devastating worries. Research found that it is social support that could be protective and enhances mental health when there is a risk to children's well-being (Ozer et al., 2003). Research underscores the vital role of social relations in equipping children with opportunities to trust others, to learn how to endure adversity, and share experiences of control. Through family relations, the older members provide harmony and social unity for the younger generation, who continuously experience constant crises of occupation, dislocation, and violence (Ghabra, 1988; Harker, 2010).

Similarly, the psychosocial intervention was successful in enhancing relevant developmental and social issues, such as peer relations among boys and sibling relations among girls. This is important as boys are inclined to be more expressive with peers than girls because they are rewarded to take a leading role, whereas softness and courtesy is a symbol of decent value among girls. Boys, in turn, have close relations and connection with peers, particularly in adolescence and often regard them their second family.

16 Psychosocial Intervention Enhancing Resilience

War experiences can interrupt children's access to critical resources and deny them their sense of security, thus putting devastating anxieties on their strength and resilience. Often Palestinian children are regarded of as being traumatized, creating the image that Palestinian children experiencing to political violence are "mentally sick" and need treatment (Rabaia, Saleh, & Giacaman, 2014). In contrast, some of those children may demonstrate high growth capability and even become emotionally sturdier following trauma (Luthar et al., 2000). Similarly, some children demonstrate resiliency (i.e. quickly return to prior functioning (Malchiodi, Steele, & Kuban, 2008), and others may demonstrate positive psychological functioning via a process called Post Traumatic Growth "PTG" (Calhoun & Tedeschi, 2006; Leckman & Mayes, 2007).

In our study, we examined the likelihood of a psychosocial intervention using Teaching Recovery Techniques (TRT) to promote resilience among Palestinian children, experiencing a major war and life danger. The results suggest that the intervention did not increase resilience, as measured by the proportion of prosociality among children.

We also explored whether the quality of family relationships would impact the intervention effects; but, the analyses presented no substantial moderating outcomes. Although the TRT enabled children to share their painful experiences, the participating children encountered severe trauma, comprised of human and material losses, shelling, and witnessing atrocities (Qouta et al., 2012). Seemingly, a short CBT-grounded intervention may not have specifically grabbed the dilemmas that children experienced, when realizing their beaten hopes in the aftermath of major fatalities and destruction.

Similarly, the intervention was not personalized explicitly to tackle resiliency aspects among children. In this regard, we presume that expanding the duration of the intervention and number of sessions would possibly have assisted children apply the gained skills to rebuilding resilience in their everyday routines. This understanding is reinforced by a review on resilience in the situation of political conflict by Barber (2013) who highlighted the complication and multi-dimensionality of mental functioning and resilience.

Further, an assessment of the intervention effectiveness among war-affected children and adolescents determined that well-structured programs of longstanding period have positive mental health effects, including resilience (Barry et al., 2013). For example, Loughry et al. (2006) applied holistic program among Palestinian children, lasting for one year and containing leisure and community programs, and parental engagement in community context to enhance children's resiliency. It was found that the intervention managed to promote children's behavioural and emotional well-being.

Further, the intervention targeted prosocial behavior. However, to be prosocial is extremely challenging, as it means the capacity to see other people's needs and practically respond to them (Eisenberg et al., 2010). Consequently, to promote prosocial behaviour and other aspects of resilience among severely traumatized children might necessitate a

diverse form of intervention that target positive characteristics of children's functioning. For example, using the general life skills and resilience school-based interventions, Srikala and Kumar (2010) found substantial positive impact on students' mental health and wellbeing, shown by enhanced self-esteem.

In the same vein, the intervention was applied in the school situation without including family members or other significant resources. Also, the notion of resilience was primarily through child- and family-related factors and disregarded the broader political, societal, and cultural resources (Ungar, 2012,2013). Therefore, inviting and consolidation of the present community resources or joint coping dimensions as argued by (Kieling et al., 2011; Ungar, 2012; 2013) would have helped children's resilience. This understanding is maintained by Lerner (2006) who contends that resilience is neither a characteristic of individuals nor the institutions around them. Rather, it is a dynamic quality of the relationship between each component; underscoring the elasticity of these relations and stressing their adaption over time.

In the Palestinian context, the significance of the family construction and close relations in giving children the prospects to trust others, acquire how to tolerate hardships, and share skills of control should not be undervalued. Moreover, there is a general understanding in the Palestinian community that sincere and durable family relations contribute to the 'secret of resilience' in the ongoing military violence (Spellings et al., 2012; Thabet, Abdulla, Elhelou, & Vostanis, 2006). It is obvious that amidst war, family and relatives do their greatest efforts to offer children a sense of safety and comfort (Barber, 2001). Additionally, shared meaning of trauma, community values, and coping with hardships impact the chances of recovery and supporting optimum growth (Afana et al., 2010; Ozer, Best, Lipsey, & Weiss, 2004).

17 Emotion Regulation Protecting Mental Health

Contrary to expectations, we found no protective role of ER on the mental health of war-affected Palestinian children. Moreover, the moderating role of ER between war trauma and mental health was gender- and symptom-specific, being valid only among boys and concerning only PTSD symptoms.

Yet, the findings confirmed significant direct effect between ER strategies and children's various symptoms and well-being. Both intrinsic and extrinsic ER strategies were associated with improved mental health, shown by low levels of depressive and psychological distress symptoms, and an elevated level of psychological well-being.

The result that none of the ER strategies were helping children to maintain their mental health in the presence of overwhelming threat, losses and horrors merits elaboration. *Firstly*, when children had only few war traumas, low levels of *distracting* ER were associated with lower PTSD symptoms; but that was not the case when trauma was higher. War events of losses, atrocities and destruction that characterized the 2008/2009 war on Gaza, are not highly uniform.

Secondly, children who could trust in parents, friends and other people for soothing and helping them when emotionally overwhelmed, as described in *other-facilitated* ER, showed an elevated level of psychological well-being. Yet, again, among children suffering from severe war trauma, *other-facilitated* ER was not associated with positive mental health outcomes.

Similarly, family-targeted trauma was associated with high *distracting* ER and low *other-facilitated* ER. Children may be witnessing death and violence directed at their family members as well as the damage of their own and others' homes and properties (Qouta et al., 2003; Thabet et al., 2014). They could be scared that they are about to lose their property (e.g., home, toys) and immediate family members (e.g. parents, siblings) and sometimes they are anxious if their father or family member leaves the home (Qouta & El-Sarraj, 2004). In conditions of political conflict, parents may feel helpless to protect their children; at the same time, children do not seek assistance from their worried and over-burdened parents (Punamäki, 2014).

Thirdly, trusting in one's self and believing in one's own regulatory capacities, as shown in *self-focused* ER was generally associated with lower depression symptoms. However, it was an unsuccessful strategy among boys who encountered severe experience to war trauma, evidenced by higher level of PTSD symptoms. These results may contribute to the phenomenon of multifinality as the same cause (i.e. war trauma) is differently linked with mental health consequences, and different ER strategies have distinct associations with the positive and negative mental health outcomes and with different symptoms (Perez, 2017).

Fourthly, controlling, suppressing and non-venting emotions, represented in the *control-enhancing* ER, were not positive. Specifically, intensive controlling (suppression, non-emotion expressing regulation style) formed a general danger for elevated PTSD, depressive

and psychological distress symptoms, and diminished psychosocial well-being. This finding is supported by research indicating that sharing and venting emotions and discussing painful experiences have a significant role because they empower trauma-exposed children to change negative interpretations of trauma, relieve stress, and habituate emotions (Ehlers & Clark, 2003; Morris, Silk, Steinberg, Myers, & Robinson, 2007).

Likewise, children who were personally targeted and suffered material losses intensively controlled their emotions. This finding supports the view that balanced and moderate, as opposed to intense, control of emotions is more effective in conditions of war trauma. This is evidenced in a cross-sectional study among Russian adolescents (N = 171) that found that balanced and moderately *controlled* ER was associated with good mental health, as represented by low levels of PTSD and depression symptoms in the aftermath of a terrorist danger (Moscardino et al., 2009).

Fifthly, the results showed gender differences in the role of ER in moderating the connection between trauma and PTSD symptoms. However, boys and girls did not differ in the beneficial direct effects of intrinsic and extrinsic ER or harmful effects of controlling ER on mental health. The gender differences are in contradiction with the cultural interpretation that boys and girls have diverse everyday experiences. Boys express their emotions and analyze their problems among peers, while girls are more reserved. Further, girls, seemingly, confide more in family relations, and show intimacy and reveal their feelings with siblings and other family members (Punamäki et al., 2014).

18 Strengths and Limitations of the Study

The implemented TRT was run as an extra-curriculum, 16-session intervention. It enabled children to communicate troubling experiences with each other and sought to prevent feelings of isolation. It was helpful to know that others also felt helpless and dreadful, and that it was not always conceivable to tolerate extreme conditions of life threat. Furthermore, the TRT intervention was implemented to suit the needs of war-affected children who exhibited short attention spans and to highlight the culturally-pertinent aspects such as representation and dream work. Similarly, the findings confirmed significant direct associations between ER strategies and children's various symptoms and well-being. Moreover, our findings revealed that children responded in multiple ways to protect their mental health and maintain emotional balance.

However, the study deserves criticisms for the following reasons: *First*, the intervention may not have fully considered the conflicts and violence that children experience in the aftermath of major losses and destruction and the on-going trauma exposure and siege. In an atmosphere of the ongoing trauma that exists in Gaza, it is difficult to find safety. The presence of drones, frequent destruction of buildings, and the continuous threat of traumatic and violent death make the possibility of a safe haven remote. Therefore, it is essential to recognize this trauma threat as it exists even during an intervention and that a participant may not feel safe at any time. Alternately, the intervention with children could have been provided in a safer environment away from trauma reminders.

Second, the intervention can be criticized for partial reliance on community resources or collective coping capacities, which are supported by research (Kieling et al., 2011; Ungar, 2013). However, the involvement of children's families in the intervention was a successful attempt in that direction. In the Gaza Strip, family groups are extensive and symbolize safe haven and offer "belonging" and consolation. Also, "El Hamula" (the extended family) protects and obligates family members to provide care for significant others.

Third, we did not test whether the amount of trauma or other social factors moderated the intervention effects and cannot, therefore, make further inferences about their relative importance. Accordingly, psychosocial interventions for war-affected children must be explicitly designed to invite, maintain, and enhance positive relations with their culture and faith. These strengths for the people of Gaza can modulate excessive fears, loneliness, and insecurity. Further, incorporating resilience-based aspects (i.e. family support and community support) would have enhanced the resilience of children and provided them with more coping strategies to overcome difficulty and empower them to function more fully.

Fourth, the psychosocial intervention was school-based; the intervention involved peers, but not caregivers, who are the main source of a child's protection. In conditions of war (or ongoing threat of war) provision of support by the extended family structure is critical for the health or healing of a child. To strengthen the intervention, sessions involving family

groups could make the process emotionally safer and deepen the possibility of success. Further, children who have been traumatized need family support and when family is involved in the sessions, the likelihood of success is higher because the family group can support the process and the outcomes. Conversely, if the intervention involves the child only, he/she returns to a family who may still be traumatized and may not be able to understand or support the intervention. A family that is involved in the intervention, may be better able to understand the child's behavior and support the plan for working with the child's anger and fears.

It is important to consider that parents in Gaza are often overburdened with attempting to provide basic needs (including safety and security) for children and other family members and may be unable or unwilling to participate in the homework activities assigned to children through their CBT intervention. It may be difficult for parents to understand or accept that children are participating in such an intervention when the atmosphere of family tension or trauma exists.

Fifth, the duration of the intervention and number of sessions are not enough to enhance a child's skills to reconstruct resilience in their everyday practices. Further, the study has not explicitly used resilience as an outcome criterion, as the primary focus is on symptom reduction as an effectiveness criterion. Therefore, there is a concern that the individual-focused CBT approach is not necessarily appropriate to diverse cultural and social backgrounds that value spiritual and collective grief and curative rituals (Hays & Iwamasa, 2006).

Sixth, the conceptualization of resilience was largely through child- and family-related factors, ignoring wider political, cultural, and societal resources (Ungar, 2012, 2013). Such resources could be civil society organizations, youth clubs, religious places (mosques), summer camps at local NGOs, children's cultural and educational centres. In the Palestinian context, utilizing existing community resources and strengthening collective coping capacities is respectful of a culture based on community and family groups.

Seventh, the study also includes single-source and subjective reporting of peer and sibling relations. Also, children reported mental health indicators instead of more valid clinical interviews. Multiple reporting, represented by (parents, teachers and peers) as sources of information would have given a more dynamic and comprehensive look and strengthened the setting.

Eighth, the generalization of the results should be limited to the aftermath of major wars and military conflict such as the Syrian war, where children are exposed to major traumas, family separations, and displacement. Improving children's social relations, building their resilience, and enhancing their skills in regulating their emotions should be the target of the psychosocial interventions.

Lastly, the study deserves criticism for the conceptualization and measurement of ER, the self-reported nature of the independent and dependent variables, cross-sectional study setting and low reliability of one scale (distracting ER). Also, the reliabilities and validity

of ERQ content dimensions need further testing in different trauma and cultural contexts. Additionally, a longitudinal study would provide information on the role of ER in mental health changes when war fears diminish.

19 Recommendations

Obviously, in times of war adversities, parents and family do their utmost efforts to offer children security, assurance, and comfort. The design and implementation of influential and culturally suitable long-term psychosocial preventive interventions could be a practical community goal. This view is supported by research indicating natural recovery aspects should thus be combined in psychosocial interventions. For example, Chandra et al. (2011) underscore that energies should be put on activating communities' competencies and on assisting to become self-reliant.

Similarly, the whole-school programmes technique could seemingly assist sustainability of children's good mental health in war conditions, as schools are the natural settings to reconstruct the devastated world of traumatized children. Such an approach enhances good mental health, peer relations, and developmental capacities, founded on everyday school practices (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Such an approach is suggested by a review implemented by (Peltonen & Punamäki, 2010) asserting that psychosocial interventions for children in war zones should be personalized so that CBT-based interventions, merging symptom- and resilience-based methods, and using children's social networks. Also, the question remains whether some children would perhaps benefit from a trauma-focused approach (targeted intervention.

Psychosocial interventions for war-affected children must be more clearly set, culturally sensitive, to uphold and improve positive relations so that these interventions can positively moderate excessive fears, loneliness, and insecurity. Specifically, programs should be made to strengthen family resources and support in assisting susceptible children, living amid hardships (Thabet et al., 2008).

Family members ought to be encouraged to find resources for social support outside the nuclear family (Barber, 2001). These resources may contain self-help groups who offer joint support for each other. Further, coping skills training that targets mothers and children to assist them during military violence should be combined into prevention and intervention programs (Khamis, 2015; Qouta, Punamäki, & El-Sarraj, 2008).

Additionally, expanding the intervention length and number of sessions would help children in reconstructing resilience in their everyday routine. Likewise, resilience-focused interventions should be extremely fitting to specific contexts, rather than the implementation of a universal protocol that is expected to have similar effects on mental health across settings (Tol et al., 2013).

The planning and implementation of intervention programs for serving children's healing should shift their emphasis more towards culturally appropriate long-term psychosocial prevention, considering the ecosystems of the military conflict by moving from individual functioning towards reinforcing the protective factors of political, cultural, social, and economical resources (Abu Liel et al., 2017; Barber, 2013; Thabet & Vostanis, 2015; Ungar, 2012).

Designing interventions in areas of armed conflict should consider a detailed contextual evaluation to choose proper resilience variables that may be targeted, relying on socially apt procedures. Further, designing programs should keep in mind putting elements targeting clearly facets of resilience that are hoped to be enhanced. Similarly, future program assessments should be specific in the definition and dimension of resilience, because there are several aspects of positive development (Barber, 2013). As important is to identify which facets are not possible to address in group- and individual intervention procedures.

Further, programs should enhance and develop a repertoire of various emotion regulation tactics of children to help them regulate their emotions and confront the environmental demands. Moreover, intervention should be tailored to involve family and friends who are able to soothe and provide support and help children, when emotionally overwhelmed, in their regulation of emotions (Barber, 2001; Punamäki et al., 2014).

20 Implications for Clinical Practice and Future Research

There are several implications of the results of this study for clinical practice.

First, psychosocial interventions for war-affected children should be more clearly planned to maintain and promote positive relations because they can control excessive worries, loneliness, and anxiety.

Second, natural recovery aspects should thus be combined in psychosocial interventions for war war-affected children as they seek safety and warmth in life threat conditions.

Third, research emphasizes that social unity and ideological values are likely to protect children's mental health (Baker et al., 1999; Barber, 2001; Punamäki, 1996). Therefore, the focus should be shifted towards strengthening social resources surrounding children.

Fourth, research findings reveal empowerment of children in the shape of improved knowledge, active involvement, and integration in the community, can in fact be protective (Barber, 2001; Loughry et al., 2006; Qouta, Punamäki, & El-Sarraj, 2008). Accordingly, such programming should be a priority in designing and implementing intervention protocols.

Fifth, considering resilience factors should be merged into future programs as abundant studies on psychosocial interventions among war-affected children have focused only on symptom reduction as results for success (Persson & Rousseau, 2009; Jordans et al., 2009) but, not on resilience factors.

Sixth, there is a need for adapting comprehensive and effective intervention through practically integrating concrete situations of human rights, protection, and justice with psychological and social facets of recovery, resistance, and resilience.

Seventh, programmes for facilitating children's recovery should shift their emphasis more towards the ecosystems of the military conflict by extending from individual functioning towards strengthening political, cultural, social, and economic resources.

As far as *future research*, programme evaluations should be specific in the definition and dimensions of resilience, because there are many characteristics of positive development and interventions might influence only some of them. It is crucial to identify which parts are not possible to target in group- and individual intervention programs. Similarly, research focus should be on intervention studies that use increased resilience as an effectiveness measure Further, longitudinal studies are needed to provide information on the role of ER in mental health changes when the war horrors attenuate. Moreover, research focus should incorporate more qualitative aspects of interventions in order to understand deeply the impact of intervention programs on different aspects of children's mental health and resilience. Lastly, multiple sources of information in the child's setting can provide a more comprehensive picture about the problems encountered by children and ways to help them cope and become resilient such informants can be parents, teachers and peers and siblings.

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ORIGINAL PUBLICATIONS

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Articles

Can Psychosocial Intervention Improve Peer and Sibling Relations Among War-affected Children? Impact and Mediating Analyses in a Randomized Controlled Trial

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Abstract

Social resources are considered important protectors in traumatic conditions, but few studies have analyzed their role in psychosocial interventions among war-affected children. We examined (1) whether a psychosocial intervention (teaching recovery techniques, TRT) is effective in improving peer and sibling relations, and (2) whether these potentially improved relations mediate the intervention's impacts on children's mental health. Participants were 428 Palestinian children [10–13 (mean = 11.29, standard deviation SD *=.68)-year-old girls (49.4 percent) and boys (50.6 percent)], who were cluster-randomized into the TRT and wait-list control groups. They reported the quality of peer (friendship and loneliness) and sibling (intimacy, warmth, conflict, and rivalry) relations, and posttraumatic stress, depressive and psychological distress symptoms, as well as psychosocial well-being at baseline (T1), postintervention (T2), and six month follow-up (T3). Results showed gender-specific TRT intervention effects: Loneliness in peer relations reduced among boys and sibling rivalry reduced among girls. The TRT prevented the increase in sibling conflict that happened in the control group. The mediating hypothesis was partially substantiated for improved peer relations, and beneficial changes in sibling relations were generally associated with improved mental health.*

Keywords: war; peer relations; siblingship; intervention

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Introduction

It is agreed that traumatic war experiences have negative impacts on children's mental health and development. Luckily, increasing evidence also shows that good social relations can protect mental health in life-endangering conditions of war and military violence (Stichick Betancourt & Khan, 2008). Children who enjoy loving family interactions and good peer relations show relatively less posttraumatic stress disorder (PTSD), depression, and other mental health problems in armed conflicts (Ehntholt & Yule, 2006; Peltonen, Qouta, El Sarraj, & Punamaki, 2010). Although social support and resources are considered crucial for war-affected children, they are seldom assessed as outcomes or as putative mechanisms for symptom reduction in intervention studies. Accordingly, we examine the role of peer and sibling relations in psychosocial intervention among Palestinian children after a major war during the ongoing Middle-Eastern military conflict.

War Trauma, Mental Health, and Social Relations

Research confirms that war-affected children have an increased risk for developing PTSD, characterized by reexperiencing the horrors in dreams and flashbacks, by avoiding reminders of trauma and numbing of feelings, as well as by constant arousal and vigilance to threats. They also suffer from depression and difficulties in emotional regulation and sleeping (Pfefferbaum, 1997; Pine, 2003). War trauma can also disrupt significant social relationships in family and school (Barber, 2001; Hodes, Jagdev, Chandra, & Cunniff, 2008; Peltonen et al., 2010). A study among Palestinian children (N = 227, 10–14-year-olds) confirmed that exposure to severe military trauma increased sibling rivalry and deteriorated friendship especially among girls (Peltonen et al., 2010). Also, Palestinian children who had experienced violence and losses were less likely to enjoy peer popularity and sibling support (Diab, 2011). The reasons may lie in traumatized children's regulatory difficulties and withdrawal from social contacts (Pennebaker, 1995).

Adequate social support, good relationships, and sufficient networks would, however, serve multiple functions in conditions of war and military violence. Support provides children assurance of receiving help when needed and feedback about their own behavior, as well as to validate and share their feelings and experiences with others (Caplan, 1974). Support can literarily be lifesaving in war conditions, where information about the intentions and plans of the enemy soldiers and about availability of shelters is crucial for safety and survival.

Social support and good relationships give children a valuable message that they are loved, cared for, and provided protection in times of distress and danger (Cobb, 1976). Children's sense of security and protection is often dramatically shattered in war, when the enemy army attacks their homes and forces them to witness their parents as helpless and humiliated victims. A study revealed that as many as 98 percent of Palestinian children reported not feeling safe in their homes during the War on Gaza, and 94.5 percent thought that adults were unable to protect them (Thabet, Ibraheem, Shivram, Winter, & Vostanis, 2009). Traumatized children have extreme fear of being left alone, and their feelings of isolation make them painfully aware of their own fragility (Freud & Burlingham, 1943; Paardekooper, 2002).

Peer and Sibling Relations and Well-being

Peers and school become very important in early adolescence, as children spend an increasing amount of time with peers. Peer relations contribute to learning communication, expressing and regulating emotions, and understanding principles of loyalty, equity, and responsibility (Bukowski, 2004; Saarni, 1999). In optimal peer and friendship relations, children learn mutual trust, fairness, empathy, and emotional sharing, which become especially vital in traumatic conditions.

There is evidence that emotion venting and disclosure are associated with good mental health both generally (Pennebaker, 1995) and in the face of trauma (Mueller, Orth, Wang, & Maercker, 2009). Acceptance by peers and intimate friendships serve as a mirror of identity, self-esteem, competence, and worthiness (Asher, Hymel, & Renshaw, 1984; Bukowski, 2004) that all critically contribute to well-being. Research confirms that the ability to make and maintain friendships and participation in social networks is associated with good mental health and optimal development, and can protect children's mental health from the negative impacts of trauma (Peltonen et al., 2010).

Support from siblings is expected to reduce stress, encourage optimal coping behavior, and facilitate the recovery from traumatic experiences. There is evidence that children with close sibling relations show more emotional compassion and empathic perspective taking than those with distant siblingships (Dunn, Slomkowski, & Beardsall, 1994), and that warmth and intimacy in sibling relations enhance emotional understanding and self-disclosure (Howe, Aquan-Assee, Bukowski, Lehoux, & Rinaldi, 2001). Conflicting and negative sibling relations increase the risk for mental health problems (Fox, Barrett, & Shortt, 2002) whereas good relations provide a sense of security, assurance, and comfort in hardships and stress (Gass, Jenkins, & Dunn, 2007; Howe et al., 2001). Research is scarce about the mental health function of sibling relations among war-affected children, although some evidence is available on positive siblingship protecting mental health from military trauma (Peltonen et al., 2010). The beneficial mental health function of peer and sibling relations is thus widely agreed upon, and one could expect that intervention programs among war-affected children aim at enhancing support and optimal relationships.

Psychosocial Interventions and Social Resources

Three systematic reviews conclude that psychosocial interventions among war-affected children are, to some extent, effective in reducing mental health problems and that the beneficial outcomes are gender specific (Jordans, Tol, Komproe, & de Jong, 2009; Peltonen & Punamaki, 2010; Persson & Rousseau, 2009). All reviewers call for extending the intervention outcomes from symptom reduction into children's optimal social resources and other developmentally salient issues. The treatment methods included optimal cognitive-emotional processing of traumatic experiences, training of coping skills, and learning narrative, integrative, and creative expressive techniques. They further provide peer support, culturally relevant recreational activities, and psycho-education of normal and alarming trauma responses. Based on cognitive-behavioral treatment protocols, interventions typically involved exercises that comprehensively target traumatized children's cognitive (attention, memory, problem solving, attributes, explanations, and interpretation), emotional (recognition, regulation, and expression), social (sharing and supporting), and symbolic (fantasy, dream working,

and drawing) developmental domains. For example, class-based intervention (CBI), applied among Nepalese and Indonesian children, involves cooperative play, expressive exercises of drama, dance, and music, and playful and narrative tools to build feelings of safety (Macy, Johnson-Macy, Gross, & Brighton, 2003).

The majority of studies focus on mental health as an effectiveness criterion, as reviewed below. For example, the CBI was applied for Nepalese (N = 325, 11–14-year-olds) and Indonesian (N = 495, 9–10-year-olds) traumatized children and was found to be successful in reducing posttraumatic stress symptoms (PTSS) in randomized controlled trials (RCT; Jordans et al., 2010; Tol et al., 2008). In addition, a group interpersonal therapy (IPT; 15 sessions) was effective in deceasing depression among refugee girls in Uganda (N = 209, 14–17-year-olds; Bolton et al., 2007), and a comprehensive preventive program provided for Bosnian adolescents (a 17-session trauma and grief component therapy, TGCT) reduced PTSD, pathological grief, and depressive symptoms (N = 55, 15–18-year-olds; Layne et al., 2008). Finally, a teacher-mediated prevention program (enhancing resilience among students experiencing stress; Gelkopf & Berger, 2009) was found to be effective in reducing posttraumatic, depressive, and somatic symptoms among war-affected Israeli children (N = 114, 13–14-year-olds).

Social resources are conceptualized in a number of ways as intervention outcomes, that is, prosocial behavior (Jordans et al., 2010; Peltonen, Qouta, El Sarraj, & Punamäki, 2012; Tol et al., 2008), improved social support and classroom social climate (Paardekooper, 2002; Stichick Betancourt & Khan, 2008), and adaptive psychosocial functioning (Berger, Pat-Horenczyk, & Gelkopf, 2007; Möhlen, Parzer, Resch, & Brunner, 2005; Onyut et al., 2005). One study employed improvement in peer and sibling relations as effectiveness criteria (Peltonen et al., 2012), and three studies assessed changes in aggression (Jordans et al., 2010; Peltonen et al., 2012; Tol et al., 2008).

Concerning effectiveness, results show that the CBI was effective in increasing prosocial behavior among Nepalese girls and in reducing aggression among boys (Jordans et al., 2010). The TGCT increased psychosocial adaptation among Bosnian (Layne et al., 2008) and Ugandan (Onyut et al., 2005) adolescents. Some studies reveal that psychosocial interventions were effective in reducing psychiatric symptoms but failed to improve social adaptation. For instance, the IPT did not have an impact on psychosocial functioning in Uganda (Bolton et al., 2007), and recreational and empowering activities among Palestinian children (N = 400, 6–17-year-olds) decreased emotional and conduct problems, but did not increase social support (Loughry et al., 2006).

As noted, only Peltonen et al. (2012) conceptualized and assessed social resources as beneficial peer and sibling relations as intervention outcomes. In that study, Palestinian children (N = 205, 8–14-year-olds) participated in school mediation intervention (SMI; Humphries, 1999) that explicitly aimed at building on natural social resources provided by peers and school class cohesion. However, the SMI could only prevent the deterioration of friendship quality and prosocial behavior that happed in the control group during the eight-month follow-up. Our study analyzed the effectiveness of the teaching recovery techniques (TRT; Smith, Dyregrov, & Yule, 2000) in improving peer and sibling relations among war-affected children. The TRT uses children's natural social resources and shared experiences in helping them to recover from severe traumatic experiences. In line with the cognitive-behavioral treatment approach, it provides psycho-education about trauma and its consequences in playful and experiential ways, trains effective coping skills and recognition and regulation of emotions, and facilitates controlling and integrating overwhelming traumatic memories. Children learn to

communicate, symbolize, and share their painful experiences, and process and master trauma-related symptoms.

The TRT has been found effective in reducing posttraumatic and depressive symptoms among refugee children in Britain (Ehntholt, Smith, & Yule, 2005) and Jordan (Ali & Snell, 2007), and among war-affected Palestinian children (Barron, Abdullah, & Smith, 2012). Ehtnholt et al. showed statistically significant but clinically modest symptom reduction postintervention among refugee children (N = 26; 11–15-year-olds), but the beneficial impact did not sustain to follow-up. An RCT among Palestinian children (N = 113; 11–14-year-olds) found the TRT to be effective in reducing PTSD, pathological grief, and depressive symptoms in preintervention and postintervention settings (Barron et al., 2012). No research is available on TRT impacting children's social resources such as support or relationships.

We examined the effectiveness of the TRT in improving children's social relations in the aftermath of the 2008/2009 War on Gaza in the context of long-lasting conflict between Israel and Palestinians. The Israeli army launched intensive attacks on the Gaza Strip in December 2008, using warplanes, tanks, and sea vessels. The 23 day-long war claimed 1417 Palestinian lives, including 313 children and injured about 5303, including 1606 children. Around 4000 houses were completely and 16 000 partially destroyed, and approximately 100 000 people were displaced (UN:OCHA, 2009). The war caused panic and fear especially among children due to massive human and material losses, life threat, and inability to escape from the besieged area.

Research Questions

Our study examines the effectiveness of the TRT psychosocial intervention in enhancing good social relations and whether these improved social relations would mediate the intervention impact on mental health among Palestinian children. We analyze peer (loneliness and friendship) and sibling relations (warmth, intimacy, rivalry, and conflict) because they are developmentally important in middle childhood and early adolescence, and can act as protective factors. To indicate intervention effectiveness, we hypothesize, first, that loneliness decreases and better friendship quality increases only in the TRT but not in the control group from baseline (T1) through postintervention (T2) to six-month follow-up (T3). Second, in siblingship, warmth and intimacy would increase and rivalry and conflict decrease only in the TRT but not in the control group through the T1–T3 assessments. Concerning the mediating role of the social relations, we hypothesize, third, that participation in TRT is associated with decreased symptoms of PTSD, depression, and psychological distress, and increased psychological well-being through improved peer and sibling relations.

Method

Participants

The Palestinian children in this study were recruited from schools in Gaza-Palestine after the Gaza War (2008–2009) to participate in psychosocial interventions aiming at preventing negative trauma consequences. The sample consists of 482 children of 10–13-year-olds [mean (M) = 11.29, standard deviation (SD) = .68; 50.6 percent boys], who were randomly assigned either to the intervention (n = 240; TRT) group or to the control-waiting list group (n = 240). The assessments were at baseline (T1), at postintervention two months later (T2), and follow-up six months postintervention (T3). An earlier study based on the same set of participants and TRT analyzed the intervention

effects on children's mental health (posttraumatic, depressive, and psychological distress symptoms) and the moderating role of peritraumatic dissociation (Qouta, Palosaari, Diab, & Punamäki, 2012). The results were gender specific and moderated by peritraumatic dissociation: The TRT reduced the proportion of clinically significant PTSS among boys and among girls only if they did not show high levels of peritraumatic dissociation.

Due to the randomization, there were no differences between the intervention and control groups in the demographic characteristics. A majority of the children (86 percent; n = 412) lived in urban areas, 12 percent in refugee camps, and 3 percent in villages. Fathers' education was evenly distributed across elementary (21 percent), secondary (28 percent), polytechnics (26 percent), and university (24 percent) levels whereas for mothers only 8 percent had a university education and 40 percent had passed polytechnics. There was a high rate of unemployed fathers (49 percent), which corresponds with general Palestinian statistics in the Gaza Strip during the international siege and economic blockade (UN:OCHA, 2009). Over 90 percent of mothers worked at home, which is slightly higher than in general statistics (UN:OCHA, 2009). The family size was about six ($M = 6.24$, $SD = 2.41$), and mothers were younger ($M = 37.50$, $SD = 7.10$ years) than fathers ($M = 42.20$, $SD = 7.40$).

Procedure

The sampling involved (1) selection of two regions (North Gaza and Gaza City), (2) random sampling of two schools in both areas from a numbered list of schools, and (3) within each of the four schools, two boys' and two girls' classes were randomly sampled by using a lottery tool.

The final clustering sample thus consists of 16 classes of fifth- and sixth-level students. The school classes were randomly allocated to intervention and control groups. The planned sample was 500, but eight children in the intervention and 10 in the control group were lost due to school absence. There were no refusals in participation as both research and intervention were part of routine school work as agreed with the Ministry of Education and school headmasters. There were no drop outs between T1 and T2 because children were assessed in their schools during the same semester. Between T2 and T3, 77 (16 percent) children were lost due to children's absence or changes of schools. A flow chart and detailed attrition analyses is presented in Qouta et al. (2012). The drop out was independent on intervention status and demographic characteristics (child age, father and mother education, refugee vs. citizen status, and area of residence). However, boys were overrepresented in drop outs.

The baseline assessment (T1) of all participating children took place in 16 classes in four schools. Information sheets explaining the purpose of the study were given to the pupils and their parents, and the headmasters informed their teachers verbally about the study and intervention. Six research assistants (master's degree in psychology) collected the data under supervision of the last author (S. Q.). Research assistants, children, parents, or teachers were not aware of children's intervention status at baseline.

Four counselors started the TRT interventions with 240 children at four schools 3 and one half months after the War on Gaza had ended. The intervention sessions were run as extracurricular activities with groups of 15 children on school premises by two female and two male counselors (master degree in psychology and training in counseling, including the TRT techniques). The intervention fidelity was guaranteed by weekly supervision by the last author (S. Q.), including case studies, psychodrama of TRT tools, consultation sessions, and practical guiding in the schools.

The Intervention

The TRT is a manualized intervention procedure with clear session procedures; the counselors followed an Arab-language manual. The TRT involves evidence-based tools following the cognitive behavioral therapy, and it aims at helping children to develop effective coping skills, empowerment, and emotion regulation by narrative, imagery, and body- and mind-related and psycho-educational techniques. All sessions started with warming up, introduction to the topic, and reviewing of the home tasks. It was crucial to create a sense of safety and to provide meaningful tools to frame and control overwhelming emotions and painful experiences and losses, to recognize ones' own and others' stress reactions, and to invite social helpers and abolish numbed feelings. The tools involved, for example, safe place method, relaxation, talking about and drawing frightening, and disturbing experiences and dreams. Problem solving, story-telling, and role play techniques were also applied. Learning about emotions and bodily and verbal regulating of fear and horrific flashbacks were important parts of the sessions. Further, children were trained to improve their sleeping patterns and to soothe their overwhelming emotions. Regulating breathing and somatic complains were introduced in relaxed and playful manners, teaching children to link their bodily sensations with the traumatic experience, feelings, and emotions. The intervention methods were aimed at enhancing children's symbolic, verbal, and kinesthetic processing of traumatic experiences. The parents were informed and consented for the children's participation in the intervention. After each session, children were given homework involving other family members. The home tasks included, for example, practicing the screening method, talking about dreams and nightmares with parents, and drawing a happy ending to their dreams.

Measures

Peer Relations. The quality of peer relations was measured by a questionnaire combining seven items of the children's loneliness (Asher et al., 1984) and eight items of friendship qualities (Bukowski, 2004) scales. Children were asked to mark on a 5-point scale how well the descriptions fit their experiences with peers and school mates (ranging from *0 = not at all to 4 = very well*). Two averaged sum variables were constructed: friendship quality (i.e., 'I can easily find new friends', 'I have good friends that I can share my secrets with') and loneliness in peer relations (i.e., 'I feel alone and rejected by my peers', 'In the school breaks I don't have anyone to talk to'). The same peer questionnaire has been found to be valid and reliable among Palestinian children in two earlier studies (Diab, 2011; Peltonen et al., 2010). In this study, the loneliness in peer relations and friendship quality scales had Cronbach's α ranging between .69 and .79 from T1 to T3.

Sibling Relations. Relations between siblings were measured by an 11-item scale by Dunn et al. (1994) that describes positive (warmth and intimacy) and negative (conflict and rivalry) interactions. Children marked how often the described events happen in their relations with an older (11 items) and a younger (11 items) sibling using a 5-point scale (ranging from 1 = *never* to *5 = always*). All items of older and younger sibling relationships correlated significantly, and averaged composite variables were calculated by combining the items of both siblings: (1) warmth in siblingship, that is, 'We usually laugh and joke together' or 'I miss him/her when he/she is out of the home', (2)

intimacy, that is, 'I usually tell him/her about my secrets' or 'I play and share games with him/her', (3) conflict, that is, 'He/she annoys and teases me' or 'In times, he/she beats me and pushes me', and (4) rivalry, that is, 'I feel jealous of him/her when he/she takes all my mother's attention' or 'I feel unhappy or jealous when other children play with him/her ignoring me'. The reliability and validity of the siblingship quality questionnaire has been established by Diab (2011) and Peltonen et al. (2010). Cronbach's α-values ranged between .68 and .79 from T1 to T3.

Posttraumatic stress symptoms (PTSS). PTSS were evaluated by the 13-item children's revised impact event scale (Smith, Perrin, Dyregrov, & Yule, 2003). The scale covers the three core dimensions of reexperiencing (four items), avoidance (four items), and hyperarousal (five items) symptoms. Children indicated on a 4-point scale how often they had each symptom during the last two weeks: *1 = not at all*, *2 = sometimes*, *3 = often*, and *4 = very often*. A total score was constructed and the Cronbach's α were .61 (T1), .72 (T2), and .63 (T3).

Depressive Symptoms. The depression self-rating scale for children by (Birleson, Hudson, Grey-Buchanan, & Wolff, 1987) was applied. The 18-item self-report instrument assesses the cognitive, affective, and behavioral dimensions of depression. Children estimated on a 3-point scale whether they had each symptom during the last two weeks: 0 = *not at all*, 1 = *sometimes*, and 2 = *all the time*. A total score was constructed for depressive symptoms, and α-reliabilities were .69 (T1), .72 (T2), and .68 (T3).

Psychological Distress. The strengths and difficulties scale (SDQ) by Goodman (1997) was applied to assess emotional, behavioral, and relational problems, hyperactivity, and prosocial behavior. Each dimension consists of five items, and children evaluated on a 3-point scale how well the description fitted them: 0 = *not at all*, 1 = *somewhat*, and 2 = *yes, fits well*. The total score of psychological distress was constructed, and α-reliabilities were .69 (T1), .72 (T2), and .67 (T3).

Psychosocial Well-being. The mental health continuum–short form for youth (Keyes et al., 2008) was applied. The 13 items assess the degree of well-being on emotional (positive affects), psychological (i.e., autonomy and self-acceptance), and social (i.e., social contribution and coherence) domains. Children evaluated on a 5-point scale each item how often they had had the particular feeling or thought during the past month: *0 = never*, *2 = sometimes*, 3 = *often*, and *4 = every day*). A total sum variable was calculated with reliabilities of .83, (T1) .82 (T2), and .85 (T3).

Demographic variables. Demographic variables of family SES (socio-economic status), parental education and work situation, civic status, family economic situation, and family size were reported by parents (either mother or father) and children's age and gender by themselves.

Results

Descriptive Statistics

Table 1 presents two-tailed Pearson correlations between peer and sibling relations across the three assessment points. Results show statistically significant negative correlations between loneliness in peer relations and friendship quality within and

Table 1. Pearson Correlations between Social Relations at Baseline, Postintervention, and Follow-up

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
T1 Peer relations				.	.													
1. Loneliness	1																	
2. Friendship	−.22**	1																
T1 Sibling relations																		
3. Warmth	.09	.26**	1															
4. Conflict	.10	−.13*	−.14**	1														
5. Rivalry	.30**	−.06	.04	.38**	1													
6. Intimacy	.02	.30**	.38**	−.11*	.09	1												
T2 Peer relations																		
7. Loneliness	.30**	−.16**	−.04	.15**	.16**	−.09	1											
8. Friendship	−.19**	.37**	.20**	−.13*	−.04	.23**	−.38**	1										
T2 Sibling relations																		
9. Warmth	.05	.17	.51**	−.12*	.05	.36**	−.09	.33**	1									
10. Conflict	.25**	−.14*	−.10	.50**	.19**	−.07	.37**	−.23**	−.09	1								
11. Rivalry	.11*	−.06	.01	.24**	.39**	.03	.33**	−.17**	.05	.40**	1							
12. Intimacy	.02	.16**	.33*	−.11*	.02	.51**	−.07	.35**	.56**	−.07	.04	1						
T3 Peer relations																		
13. Loneliness	.24**	−.25**	−.13*	.08	.11	−.12*	.43**	−.35**	−.14*	.15**	.14*	−.13*	1					
14. Friendship	−.29**	.29**	.13*	−.07	−.04	.09	−.24**	.39**	.16**	−.17**	−.04	.13*	−.43**	1				
T3 Sibling relations																		
15. Warmth	−.06	.16**	.41**	−.16**	−.01	.28**	−.06	.27**	.45**	−.17**	.02	.31**	−.08	.20	1			
16. Conflict	.08	−.02	.00	.23**	.15*	−.06	.12*	−.06	.01	.32**	.20**	−.05	.22**	−.13*	−.12*	1		
17. Rivalry	.21**	−.12*	.00	.20**	.30**	.02	.23**	−.11	.01	.30**	.40**	−.39	.25**	−.17**	.03	.39**	1	
18. Intimacy	−.02	.12*	.24**	−.12*	−.04	.41**	.07	.24**	.30**	−.10	.05	.46**	−.06	.22**	.54**	−.05	.09	1

* Correlation is significant at .05 level and ** correlation is significant at .01 level (two-tailed) N = 442 (T1 and T2) and N = 312 (T3).

across T1, T2, and T3. Concerning sibling relations, there were significant positive correlations between warmth and intimacy, and between conflict and rivalry within and across T1, T2, and T3. Loneliness in peer relations correlated significantly with conflict and rivalry in siblingship within and across assessment points.

Intervention Improving Social Relations

To analyze whether peer and sibling relations would improve during the TRT intervention, a 2 (group: intervention vs. control) × 2 (gender) repeated-measures multiple analysis of covariance (MANCOVA) with main and interaction effects was applied. Time (T1, T2, and T3) was the within-group factor and age and school class the covariates. Separate MANCOVAs were run on two sets of dependent variables of peer relations (friendship and loneliness) and sibling relations (warmth, intimacy, conflict, and rivalry).

The means and standard errors of peer and sibling relations at baseline (T1), postintervention (T2), and follow-up (T3) are reported in Table 2. The only intervention impact was found for sibling conflict [group × change – interaction effect, $F(1, 482) = 4.42$, $p < .001$, $\eta^2 = .06$]. Figure 1 illustrates that, in the control group, sibling conflicts significantly increased from T2 to T3. However, our hypothesis of sibling conflicts decreasing in the intervention group was not substantiated, although conflicts did not increase as they did among controls. The significant group × gender × change – interaction effect, $F(2, 480) = 3.95$, $p < .05$, $\eta^2 = .02$, further specified that the siblingship conflicts increased especially among boys in the control group.

Intervention effects on other social relations were gender specific, indicated by significant group × gender × change interaction effects for loneliness, $F(2, 485) = 8.50$, $p < .0001$, $\eta^2 = .05$, and sibling rivalry, $F(485, 2) = 5.86$, $p < .01$, $\eta^2 = .03$. The hypothesis that loneliness would decrease in the intervention group was substantiated among boys, but not among girls (Figure 2). The hypothesized decrease in sibling rivalry in intervention group occurred, in turn, only among girls. Results further revealed a general deterioration in positive sibling relations, shown in decreased warmth and intimacy from baseline T1–T3 in both groups. Counter to our hypotheses, the intervention was not able to prevent that deterioration.

Mediating Role of Social Relations

Structural equation modeling (maximum-likelihood estimation; AMOS/SPSS 5, IBM, Soners, NY) was used to test the mediating role of improved peer and sibling relations between the intervention participation (dummy variable 0 = control; 1 = intervention) and changes in mental health indicators (PTSS, depressive and psychological distress symptoms, and psychosocial well-being change scores). The change variables of peer and sibling relations and mental health were the simple subtractions of T1 scores from T3 scores. Mediation was tested according to MacKinnon, Lockwood, Hoffman, West, and Sheets (2002): (1) the path from intervention participation to mental health latent construct should be statistically significant; (2) adding the two latent constructs of change in peer and sibling relations as mediators should improve significantly the model, and the paths (a) from intervention to both these mediators and (b) from the mediators to the mental health latent construct should be statistically significant whereas (c) the original significance of the path from intervention to mental health

Table 2. Means and Standard Errors of Peer and Sibling Relations in Intervention and Control Groups at Baseline (T1), Postintervention (T2), and Follow-up (T3), and GLM Statistics for Intervention Effects

	Baseline T1				Postintervention T2				Follow-up T3						
	Intervention		Control		Intervention		Control		Intervention		Control		*F*-values[a,b]		
	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE	Change[c]	Group × change	Group × gender × change
Peer relations															
Loneliness	2.21	.09	2.09	.09	2.33	.09	2.07	.10	1.93	.09	2.01	.10	.06	1.86	8.50****
Friendship	3.85	.07	3.85	.08	3.71	.09	3.94	.09	3.70	.09	3.96	.09	2.24	1.37	1.11
Sibling relations															
Warmth	2.54	.08	2.50	.08	2.34	.08	2.37	.09	2.32	.08	2.39	.10	5.51**	.44	.42
Conflict	1.37	.07	1.29	.08	1.39	.08	1.25	.09	1.08	.08	1.34	.09	1.61	4.42**	3.95*
Rivalry	1.12	.08	1.26	.09	1.14	.09	1.31	.10	.91	.10	1.12	.10	5.04**	.10	5.86**
Intimacy	2.26	.07	2.21	.08	2.05	.08	2.14	.09	2.02	.07	2.01	.08	7.50***	.88	1.19

Note: GLM = general linear model; *M* = mean; SE = standard error.
[a] Intervention group n = 207 and Control group n = 197. [b] *F*-values are Wilk's lambda in a repeated measure setting from T1 through T2 to T3. [c] Change refers to general change from baseline through postintervention to follow-up.
* $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$.

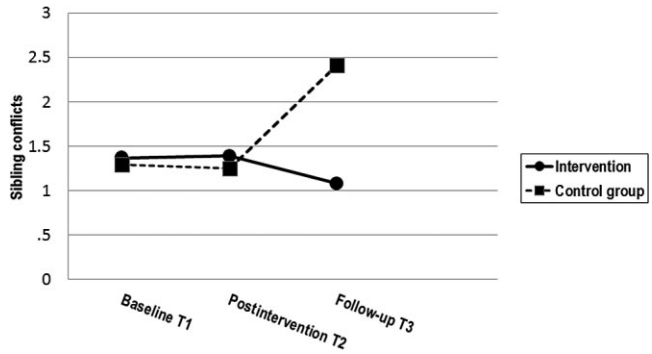

Figure 1. Intervention Effect on Conflict in Siblingship.

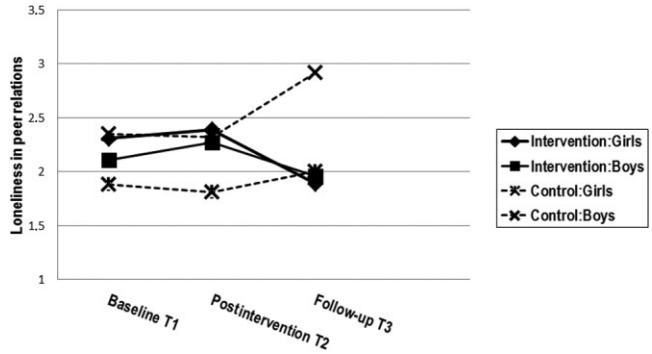

Figure 2. Gender-specific Intervention Effect on Loneliness in Peer Relations.

should significantly attenuate. As a criterion of acceptable fit, we used values of >.90 for Comparative Fit Index (CFI) and Normed Fit Index (NFI), and <.08 for Root Mean Square Error of Approximation (RMSEA) (Browne & Cudeck, 1992).

Latent constructs were formed for changes in child mental health, peer relations, and sibling relations from T1 to T3, and their measurement models were tested prior the modeling of mediation. A combined measurement model fit the data adequately as the results of fit criteria were CFI = .96, NFI = .94, RMSEA = .05. However, the chi-squared fit was significant, χ^2 (43, N = 483) = 90.89, $p < .001$, as is often the case in large samples. Manifest variables (n = 10) had significant variances, except sibling rivalry and SDQ psychological distress. They were kept, however, in the model for their conceptual significance.

The results of the mediating model of social relations are presented in Figure 3. The model of direct association between intervention and mental health change fit the data well, χ^2 (3, N = 483) = 4.49, $p = .21$, CFI = .97, NFI = .93, RMSEA = .03, confirming that TRT-psychosocial intervention significantly decreased children's mental health symptoms [$\beta = -.25$, $t = -6.93$, standard error (SE) = 1.24, $p = .0001$], thus fulfilling the first requirement for the mediation. Adding the two latent variables of changes in peer and sibling relations as potential mediators did not, however, improve the model, although it showed a good fit, χ^2 (29, N = 483) = 43.39, $p < .04$, CFI = .95, NFI = .95, RMSEA = .03. The significant β-coefficients in Figure 3 confirmed that improved peer

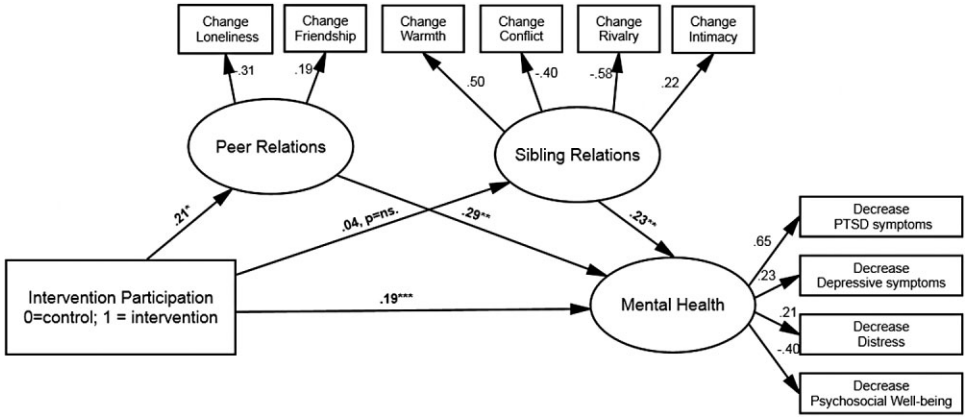

Figure 3. SEM Testing the Model of Peer and Sibling Relations Mediating Between the Intervention Participation and Mental Health.
Note: * < .05, ** < .01, *** < .001.

relations partially mediated the TRT intervention impact on children's mental health: the path was significant between the intervention and beneficial change in peer relations ($\beta = .21$, $t = 1.96$, SE = .07, $p = .05$) and that improvement in peer relations was further significantly associated with good mental health ($\beta = .29$, $t = 2.58$, SE = 4.85, $p = .01$). However, the path of the intervention on mental health was still significant despite the significant mediator ($\beta = -.19$, $t = 3.64$, SE = 1.37, $p = .0001$), indicating a partial mediation of peer relations. Improvement in sibling relations was associated significantly with children's good mental health ($\beta = .23$, $t = 3.22$, SE = 1.97, $p = .001$), but did not function as a hypothesized mediator.

Discussion

War trauma can comprehensively impact child development including social relations. Subsequently, traumatized children need all possible help and support when struggling toward adaptation. We examined effectiveness of the TRT psychosocial intervention to increase beneficial social resources among war-affected Palestinian children in a controlled and cluster randomized three-wave longitudinal study. We conceptualized social resources as the quality of peer and sibling relationships that are developmentally salient for 10–13-year-old children. We further analyzed the role of improved social relations in mediating the intervention impact on children's mental health. Limitations of the study include single-source and subjective reporting of peer and sibling relations as, that is, sociogram tools would have given a more dynamic look. Similarly, children reported mental health indicators instead of more valid clinical interviews. Generalization of the results should be limited to psychosocial interventions in the aftermath of major war and military violence.

Although it has been suggested that people unite in the face of war and life threat, empirical research reveals deteriorated human relations, especially in prolonged military conflicts (Hodes et al., 2008; Paardekooper, 2002). Such a situation causes a threat to children's well-being because it is social support that could protect their mental health (Ozer, Best, Lipsey, & Weiss, 2003). Given this background, the result that TRT

psychosocial intervention was effective in reducing some negative peer and sibling relations is important. Also, the result that improved peer relations partly mediated the intervention impact on mental health emphasizes the fundamental nature of social resources in trauma.

The beneficial intervention effect was gender specific as boys' loneliness in peer relations and girls' rivalry in sibling relations decreased in the intervention group, but not among controls. Dynamics reflect general gender differences in upbringing in Palestinian society and Middle-Eastern Islamic culture (Diab, 2011). Boys tend to be more expressive with peers than girls because they are encouraged to talk and take a lead whereas quietness and politeness is a sign of good virtue among girls. Boys also communicate and analyze their problems among peers whereas girls show more reservation. Girls apparently trust more in family relations, and share intimacy and disclose their feelings with siblings. Boys, in turn, have very tight relations and affiliation with peers especially in adolescence and often consider them their second family. Psychosocial interventions are thus effective in improving salient developmental and identity-related issues, for example, peer relations among boys and sibling relations among girls. Similarly, the psychosocial intervention in Nepal improved prosocial behavior among girls and lowered aggression among boys (Jordans et al., 2010).

Earlier studies revealed deteriorated peer and sibling relations in traumatic and violent conditions among Palestinian children (Diab, 2011; Peltonen et al., 2010). Similarly, in our study, sibling conflicts escalated in the aftermath of major war among control children whereas the conflict level stayed stable in the intervention group in the follow-up. There is evidence that war trauma can intrude and interfere with family relations as burdened parents may not have the energy to soothe and support their children, and subsequently sibling conflicts and rivalry appear (Barber, 2001; Peltonen et al., 2010). However, the TRT had also beneficial impacts on negative siblingship as sibling rivalry reduced among girls.

The TRT was not effective enough to increase positive sibling relations characterized by warmth and intimacy. On the contrary, there was a general decline in these positive and supportive sibling relations in both intervention and control groups. This is a reason for concern because positive domain of child development, including joyful, intimate, and warm peer and sibling relations are vital for health and resilience (Stichick Betancourt & Khan, 2008). Positive experiences do not only indicate lack of negative processing, but constitute unique protective resources. Pleasant, secure, and happy experiences serve the possibility to look on the bright side of experiences, which is especially important in life danger and insecurity. Accordingly, psychosocial interventions for war-affected children should be more explicitly designed to invite, maintain, and enhance positive relations because they can modulate excessive fears, loneliness, and insecurity.

Similar to other cognitive-behavioral interventions, the TRT aims at inviting children to share, rely, and seek support in their natural social networks. Our findings confirmed the putative role of improved peer relations in mediating the intervention impact on children's mental health. In other words, intervention participation decreased mental health problems by improving peer relations, although also the direct link between TRT and outcomes was valid. Peer relations are especially important in late childhood and early adolescence (i.e., Bukowski, 2004), which can explain their power. War-affected children seek safety, closeness, and assurance in life threat, and this natural healing element should thus be incorporated in psychosocial interventions.

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Research article

Effectiveness of psychosocial intervention enhancing resilience among war-affected children and the moderating role of family factors☆

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ABSTRACT

The study examines, first, the effectiveness of a psychosocial intervention based on Teaching Recovery Techniques (TRT) to increase resiliency among Palestinian children, exposed to a major trauma of war. Second, it analyses the role of family factors (maternal attachment and family atmosphere) as moderating the intervention impacts on resilience. School classes in Gaza were randomized into intervention ($N = 242$) and control ($N = 240$) groups. The percentage of girls (49.4%) and boys (50.6%) were equal, and the child age was 10–13 years in both groups. Children reported positive indicators of their mental health (prosocial behaviour and psychosocial well-being) at baseline (T1), post-intervention (T2) and at a six-month follow-up (T3). At T1 they accounted their exposure to war trauma. Mothers reported about their willingness to serve as an attachment figure, and the child reported about the family atmosphere. Resilience was conceptualized as a presence of positive indications of mental health despite trauma exposure. Against our hypothesis, the intervention did not increase the level of resilience statistically significantly, nor was the effect of the intervention moderated by maternal attachment responses or family atmosphere.

Introduction

War brings suffering to families, and children are at risk for psychiatric distress (Attanayake et al., 2009) and developmental problems (Tol, Song, & Jordans, 2013a; Tol, Song, & Jordans, 2013b). Yet, there is also evidence showing that many children can endure traumatic experiences, maintain their mental health, and enjoy normal development in war. The children who face severe trauma but recover represent resilience. Resilient children are those who show high levels of mental health functioning despite high exposure to traumatic events (Masten & Narayan, 2012), and some children may even 'blossom' and become stronger and more capable to meet future challenges (Werner & Smith, 1982). A primary task in helping

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children in war conditions is to enhance, strengthen, and promote their resilience. However, we lack intervention studies that use increased resilience as an effectiveness criterion (Betancourt, Meyers-Ohki, Charrow, & Tol, 2013; Peltonen & Punamaki, 2010). A majority of studies on psychosocial interventions among war-affected children have focused on symptom reduction as outcomes for success (Persson & Rousseau, 2009; Jordans, Tol, Komproe, & de Jong, 2009). Our study investigates the effectiveness of a psychosocial intervention based on Teaching Recovery Techniques (TRT) in enhancing resilience among Palestinian children following a major war in 2008/2009.

War Trauma and Psychological Problems

Children experience war trauma directly or indirectly through the suffering of parents and siblings, extended family members, and peers. Common experiences are material and human losses (e.g., house demolitions and death of family members and friends), witnessing killing and being wounded (UNDP, 2010). The context of this study is the aftermath of an Israeli military operation on Gaza-Palestine, involving land, air, naval, artillery, intelligence, and combat engineering units. The war, called the 'Cast Lead' – operation by Israelis aimed at continuing the military siege of Gaza and stop Palestinian rockets launched to Israel. During the three-week war Israel used various new military technologies, such as white phosphorous bombs (Steinberg & Herzberg, 2011; UN OCHA, 2009). The war claimed approximately 1417 Palestinian lives, including 313 children and injured about 5303, including 1606 children. Around 4000 houses were completely and 16,000 partially destroyed, and approximately 100,000 people were displaced (UN OCHA, 2009). The war caused panic and fear especially among children due to massive human and material losses, life threat, and inability to escape from the besieged area. To children, war signifies also loss of sense of security and often mistrust in adults' ability to protect them. For example, 58% of Palestinian children reported that they had witnessed people dying, 25% had a friend who died, and 25% were wounded themselves during the War on Gaza in 2008/9 (Palosaari, Punamaki, Qouta, & Diab, 2013). Furthermore, a majority (82%) experienced life-danger, three fourths (73.5%) feared that they were going to die, and almost all reported not feeling safe in their homes (99%) or feeling that parents were not able to protect them (94%) (Thabet, Ibraheem, Shivram, Winter, & Vostanis, 2009; Thabet, Tawahina, El Sarraj, & Vostanis, 2008). Research among Afghan, Israeli and Northern Irish families has revealed that the war-related everyday stress and poverty are highly distressing for children in addition to the dramatic trauma exposure (Cummings et al., 2013; Dubow, Huesmann, & Boxer, 2009; Eggerman & Panter-Brick, 2014).

Research confirms high levels of post-traumatic stress symptoms (PTSS), depression, and psychological distress among war-affected children. A systematic review revealed the overall estimate of PTSD (Post Traumatic Stress Disorder) to be 47% (17 studies with 7,920 participants) and depression 43% (4 studies) in acute and post-war conditions (Attanayake et al., 2009). Studies conducted after the War on Gaza 2008/2009 confirmed that more than a half of children showed clinically significant posttraumatic stress symptoms (61.5%, Thabet et al., 2009; 53%, Qouta, Palosaari, Diab, & Punamäki, 2012), and a third reported depressive symptoms (31%, Qouta et al., 2012).

Occurrence and Predictors of Resilience

Resilience is conceptualized as the capacity to return to normal functioning or even blossom after severe trauma. It also refers to the absence of mental health or psychosocial problems despite severe hardships, and to the presence of developmental competences in adverse living conditions (Masten, 2007; Werner & Smith, 1982). Masten (2007) distinguished between children being stress-resisting when they are functioning well under cumulatively adverse and depriving developmental conditions (e.g., poverty and neglect) and them bouncing back when recovering to normal functioning from severe trauma (e.g., war, terrorism, or natural catastrophes), reflecting the multiplicity of resilience. Classic studies have analysed child resilience in both conditions, involving poverty and deprivation (Werner & Smith, 1982), parental neglect and maltreatment (Curtis & Cicchetti, 2003), and parental mental illness (Beardslee, Gladstone, Wright, & Cooper, 2003), as well as major catastrophes (Masten & Obradovic, 2006).

Although resilience is considered common among war-affected children (Betancourt, 2011; Eggerman & Panter-Brick, 2014), its prevalence has seldom been empirically studied. Majority of the studies have analysed resilience-related factors that protect child mental health in extremes conditions (Tol et al., 2013a; Tol et al., 2013b) or considered the relatively low percentages of PTSS as the indication of resilience (Bonanno & Mancini, 2008). A Palestinian study ($N = 604$, 10–16-year-olds) classified children according to the severity of their war trauma (low vs. high) and occurrence of psychiatric disorders (no vs. yes) (Punamäki, Qouta, Miller, & El Sarraj, 2011). The resulting 2×2 – grid showed that about a fifth (21%) of the children were resilient (i.e. exposed to severe war trauma, but did not suffer psychiatric disorders). In the present study we define mental health in positive terms as psychosocial well-being and prosocial behaviour, which accords with the classic definition of resilience as 'blossoming despite adversity" (Werner, 1985).

Researchers attempt to understand what contributes to the resilience among war-affected children, typically conceptualizing factors on three levels in the spirit of ecological models (Betancourt et al., 2013; Dubow et al., 2009; Ungar, 2013). The first level describes children's individual characteristics and ways of coping with hardships. Resilient children typically appraise traumatic events as less harmful, realize the available social resources and apply salient cognitive-emotional process that fit the demands of specific traumatic events (Tol et al., 2013a; Tol et al., 2013b; Betancourt et al., 2013).

Second, family is the main source of support contributing to child's healthy development, especially in traumatic circumstances. In times of danger humans seek affiliation and safety from each other (Bowlby, 1982), which explains the

importance of family relations in war and military violence. Barber (2001) showed that good parenting, social integration in family, high parental education, and religious commitment significantly buffered Palestinian children's mental health in conditions of military violence ($N = 6{,}000$, 14-year-olds). It was noteworthy that military violence did not increase adolescents' antisocial behaviour if they enjoyed high level of parental support and acceptance. Another Palestinian study found that wise and supportive parenting styles were associated with children's creativity and cognitive capacity, which, in turn, contributed to good psychological adjustment, despite severe exposure to war trauma (Punamäki, Qouta, & El Sarraj, 1997). The results suggest that motivational and cognitive-emotional functioning might be the mechanisms through which good parenting fosters resilience. Also, positive relations to peers and siblings can attune the effects of war trauma. The study among Palestinian children showed that low levels of rivalry and high levels of intimacy between siblings protected children from depressive and anxiety symptoms (Peltonen, Qout, El Sarra, & Punamaki, 2010). Among war-affected Chechen adolescents, social support and connectedness with peers functioned as protective shield for mental health (Betancourt et al., 2011). These findings emphasize the fundamental nature of social resources in trauma, their potential to "inoculate" against negative war experiences, and contribute to resilience (Cohen, Dekel, & Solomon, 2002; Mikulincer, Shaver, & Horesh, 2006).

Third, various contextual and cultural resources provide access to benevolent processes associated with resilience (Ungar, 2013). This means that in the face of adversity individuals and families try to secure for themselves and optimize the psychological, social and physical resources that would guarantee not only survival but also human development. In that sense, resilience is always defined locally, and the resilience of a particular child develops within multiple systems in which he/she interacts (Rutter, 2012; Ungar, 2013). Along these lines, a longitudinal study among Afghan families revealed multiple cultural-philosophical premises and family factors contributing to resilience, such as faith and religious world order, family unity and harmony, supportive networks and moral codes of respect and honour (Eggerman & Panter-Brick, 2010; Panter-Brick, Goodman, Tol, & Eggerman, 2011).

Contemporary research emphasizes the role of environment providing preconditions for individual or family resilience (Betancourt, 2011; Ungar, 2013, 2012; Rutter, 2012). Ungar analyses principles of how culture and context can be understood as an integral part of resilience, and ways how facilitative environment and individual possibilities interact. Resilience is considered a function of the individual's social ecology to facilitate recovery and growth, and facilitative environments are expected to be more influential than individual capacities in potentiating resilience: In an extensive 11-country study on preconditions to resilience, the majority of the important predictors were social, proximal, and political in their nature rather than individual or family-related (Ungar & Liebenberg, 2011). In war conditions, for instance, apparently the choice of how children can cope with life-threat is probably more dependent on what the environment offers than their own motivation or personality. Further, the effectiveness of differential environmental impacts on resilience depend on children's unique characteristics, the availability and accessibility of resources, and the meanings given to the trauma and stress. In war conditions, collective meaning of trauma and cultural values and ways of coping with adversity influence the prospects of recovery and sustaining optimal development. Studies have confirmed that ideological expectations and attributions and cultural resources are pivotal in promoting hope and meaningful life goals among war-affected children (Barber & Schluterman, 2008; Eggerman & Panter-Brick, 2010).

Interventions to Enhance Resilience

Psychosocial interventions among war-traumatized children are numerous, as many UN agencies and Non-Governmental Organizations (NGOs) initiate programmes to heal and prevent disorders, and to promote health and optimal development (Betancourt et al., 2013; Jordans, Tol, Komproe, & de Jong, 2009; Persson & Rousseau, 2009). In many cases, the goal is to increase resilience by focusing particularly on individual factors such as effective coping strategies, problem solving skills, and functional cognitive-emotional regulation. Also, enhancing social support and family resources are common aims of the programmes among war-affected children. Still, intervention studies have not explicitly used resilience as an outcome criterion, as the majority is focusing on symptom reduction as an effectiveness criterion.

For example, the Coping-Enhancement Protocol developed for war-affected Israeli children aimed at increasing resilience, coping effectiveness, and optimal emotion regulation, by using techniques of sharing and restructuring traumatic experiences, psycho-education, and narrative and play activities (Wolmer, Hamiel, & Laor, 2011). The Protocol was found effective among 983 war-affected children when the criterion was symptom reduction. Similarly, the ERASE-Stress intervention (ES) was conducted to enhance resilience, to improve coping skills and improve mental health, and to increase social support among war-affected Israeli children (Gelkopf & Berger, 2009). The techniques included training, psychoeducation, meditative practices, mind and body integration, and working with trauma narratives. The results among 114 Israeli children showed a decrease in PTSD, depressive, and somatic symptoms. Changes in resilience were not indicated as an effectiveness outcome.

A Class-Based Intervention (CBI) has been widely applied for war-affected children in low-and middle-income countries (LAMICs), aiming at facilitating resilience, enhancing effective coping, and preventing mental health problems (Jordans, Tol, & Komproe, 2011). Techniques include integration of trauma-related memories, cooperative play, and building a sense of safety. The CBI was found to be effective in increasing prosocial behaviour among girls, and decreasing aggression among boys, in addition to symptom reduction among 325 Nepalese children (Jordans et al., 2010), and in increasing hope and reducing PTSS among 459 Indonesian children (Tol et al., 2008). CBI was also effective in decreasing symptoms among younger Palestinian children exposed to severe war trauma (Khamis, Macy, & Coingnez, 2004).

The present study analyses the effectiveness of a psychosocial intervention, based on the Teaching Recovery Techniques (TRT), to enhance residence, i.e., positive outcomes despite severe trauma. The TRT is a manualised intervention for traumatized children to learn how to cope effectively with the symptoms of posttraumatic stress. For example, relaxation exercises and sleep hygiene are expected to attune hyperarousal symptoms, manipulation of mental imagery to gain control of intrusive symptoms, and graded exposure techniques are trained to deal with avoidance symptoms. The TRT involve symbolic elements of play, drawing, writing, and narrating, as well as psychoeducation about normal and worrying trauma responses. The TRT was found effective in decreasing PTSS, pathological grief, and depressiveness among 133 Palestinian children in West Bank with no follow-up measurement (Barron, Abdallah, & Smith, 2012). A study using the TRT among 26 refugee children found a clinically modest decrease in the severity of PTSD with no maintenance of the gains at 2-month follow-up (Ehntholt, Smith, & Yule, 2005). A study using an adapted TRT (culturally apt dream work and affect regulation elements) among Palestinian children found a decrease in the proportion of severe PTSSs among boys, and among girls with low amount of peritraumatic dissociation (Qouta et al., 2012). However, no statistically significant effects were observed in the 6-month follow-up and the number of statistical tests done was not taken into account. The intervention was further found to associate with decreased mental health problems (a latent variable of simple difference scores) with partly being mediated by changes in peer relations (Diab, Punamäki, Palosaari, & Qouta, 2014) but not by changes in emotion regulation (Punamäki, Peltonen, Diab, & Qouta, 2014). These two mediating studies can be criticized for them not taking into account the regression to the mean observed in PTSSs, and for insufficient handling of interdependency due to the cluster sampling procedure.

Research Questions

The first aim is to investigate the effectiveness of a psychosocial intervention based on Teaching Recovery Techniques (TRT) in enhancing resilience among war-affected children. Second, the study examined the moderating role of family factors in the intervention impacting children's resilience.

We conceptualize resilience as the presence of good mental health despite exposure to war trauma. The resilient children are those who have high levels of mental health despite their exposure to severe war trauma. The traumatized children in turn have been exposed to severe war trauma and show poor mental health. Good mental health was indicated by high levels of psychosocial wellbeing and prosocial behaviour. We hypothesized that the intervention based on TRT would be effective in enhancing children's resilience. In other words, the level of resilience and the prevalence (%) of the resilient children would increase from baseline (T1) across the end of intervention (T2) and six months follow up (T3) only in the intervention group and not in the control group.

Concerning the family factors, we hypothesize that positive family relationships (indicated by maternal secure attachment availability and good family atmosphere) are associated with a greater increase in the resilience prevalence. We further explore whether children's gender and the positive family relationships moderate the impact of the intervention on resilience.

Method

Participants and study procedure

Participants were recruited from schools in Gaza-Palestine after the Gaza War (January 2009) to participate in psychosocial interventions aimed at preventing negative trauma consequences. The sample consisted of 482 children whose ages were 10–13 years ($M = 11.29$, $SD = .68$; 50.6% were boys) and who were randomly selected either to the intervention ($n = 242$) or to the control-waiting list group ($n = 240$). The assessments were at baseline (T1), at two months post-intervention (T2), and six months post-intervention (T3).

The sampling involved (1) selection of two regions (North Gaza and Gaza City), (2) random sampling of two schools in both areas from a numbered list of schools, and (3) within each of the four schools, two boys' and two girls' classes were randomly sampled by using a lottery tool. The final clustering sample thus consisted of 16 classes of fifth and sixth level students. The school classes were randomly allocated to intervention and waiting-list control groups. The planned sample was 500, but eight children in the intervention and ten in the control group were lost due to school absence. There were no refusals in participation as both research and intervention were part of routine school work (as agreed with the Ministry of Education and school headmasters). There were no drop-outs between T1 and T2 because children were assessed in their schools during the same semester. Between T2 and T3, 77 (16%) children were lost due to children's absence or changes of schools. The dropout was independent on intervention status and demographic characteristics (child age, father and mother education, refugee vs. citizen status and area of residence). However, boys were over-represented in dropouts.

The baseline assessment (T1) of all participating children took place in 16 classes in four schools. Information sheets explaining the purpose of the study were given to the pupils and their parents, and the headmasters informed their teachers verbally about the study and intervention. Six research assistants (master's degree in psychology) collected the data under supervision of the last author (SQ). Research assistants, children, parents or teachers were not aware of a child's intervention status at baseline.

Four counsellors started the interventions with 240 children at four schools 3 ½ months after the War on Gaza ended. The intervention sessions were run as extra-curricular activities with groups of 15 children on school premises by two female and two male counsellors (master's degree in psychology and training in counselling, including the TRT techniques). The intervention fidelity was guaranteed by weekly supervision by the last author (SQ), including case studies, psychodrama of TRT tools, consultation sessions and practical guiding in the schools.

The intervention

The TRT is a manualized intervention procedure with clear session procedures; the counsellors followed an Arab-language manual with some changes (for example, the order of the exercises such as "Safe place method" in the third week instead of first or intensive dream work). The TRT involves evidence-based tools following Cognitive Behavioral Therapy (CBT), and it intends to help children develop effective coping skills, empowerment, and emotion regulation by narrative, imagery, body-, and mind-related, and psycho-educational techniques. All sessions started with warming up, introduction to the topic and reviewing of the home tasks. It was crucial to create a sense of safety and to provide meaningful tools to frame and control overwhelming emotions and painful experiences and losses, to recognize ones' own and others' stress reactions and to invite social helpers and abolish numbed feelings. The tools involved e.g., a safe place method, relaxation, talking about and drawing frightening and disturbing experiences and dreams. Problem solving, storytelling, and role play techniques were also applied. Learning about emotions and bodily and verbal regulation of fear and horrific flashbacks were important parts of the sessions. Further, children were trained to improve their sleep patterns and to sooth their overwhelming emotions. Regulating breathing and somatic complaints were introduced in relaxed and playful manners - teaching children to link their bodily sensations with the traumatic experience, feelings and emotions. The intervention methods were aimed at enhancing children's resources to deal with symptoms of posttraumatic stress. The parents were informed and consented to the children's participation in the intervention. After each session, children were given homework involving other family members. The home tasks included e.g. practicing imagery manipulation, breathing exercises, talking about dreams and nightmares with parents, and drawing a happy ending to their dreams.

Measures

Traumatic events. The measure consisted of 14 traumatic events that correspond to Criterion A of the diagnosis of PTSD in *DSM-5* (American Psychiatric Association, 2013). They include experiencing and witnessing actual or threatened serious injury or death. The children reported whether they had had the experience during the war (0 = *no*, 1 = *yes*). A sum variable was constructed by counting the yes-answers. In the follow-up assessment (T3) children were additionally asked whether they had experienced any traumatic events after the first assessment. Exposure to one or no type of war trauma were classified as low exposure and more than one type as high exposure. In the analyses, the intervention effectiveness was compared only among children with similar level of exposure because the intervention was not assumed to affect war trauma exposure.

Psychosocial wellbeing. The Mental Health Continuum–Short Form (MHC–SF) for youth (Keyes et al., 2008) is a 14-items assessment on the degree of well-being. The measure includes dimensions of positive emotional affects ("I have warm and trusting relationships with others"), psychological autonomy and self-acceptance ("I feel happy") and social contribution and coherence ("the way our society works makes sense to you"). The measurement used in the present study consisted of 13 items with a couple of changed items, which is why we did not use the established cutoffs for categorizing children. Children evaluated on a 5-point how often they have felt or thought in described ways during the past month (0 = never, 2 = sometimes, 3 = often 4 = every day). A total sum variables were calculated (Cronbach's α's are T1 .83, T2 .82 and T3 .85).

Prosocial behaviour. The Strength and Difficulties Scale (SDQ) by Goodman (1997) provides a 5-item pro-social behaviour measure. Examples are "I usually share toys and school tools with other children" and "I help other people if something bad happens to them or if I see them upset". Children evaluated on a 3-point scale how well the descriptions fit them (0 = not at all, 1 = somewhat, 2 = yes, fits well). The SDQ has previously been used among Palestinian children in Gaza, showing moderate reliabilities but good validity (Thabet, Stretch, & Vostanis, 2000). We used the cutoff of 3 on a 5-point scale based on the English norms (Meltzer, Gatward, Goodman, & Ford, 2000). The internal consistencies for prosocial behaviour subscale in this data were weak (α = T1 .63, T2 .62 and T3 .65).

Maternal attachment was assessed by the 10-item measure of Willingness to Serve as a Secure Base for the Child by Kerns, Klepac, and Cole (1996). Mothers indicated on a 6-point scale how well the descriptions fit them (1 = not at all descriptive of me, 6 = highly descriptive of me). The statements were, for example, "I feel a child should be given comfort and understanding when s/he is scared or upset", "I make sure my child knows that I appreciate what s/he tries to accomplish", and "I sometimes tease and make fun of my child" (reverse scored). A sum variable was constructed (α = .68).

Family atmosphere was measured by the Family Ambiance Scale by Khamis (2000). The seven-item questionnaire assesses family members' communication and interaction reflecting subjective anxiety, tension, nervousness or relaxation and calmness (e.g., "Very often I am afraid to express myself at home" or "I like to participate in family discussions"). The child evaluated how well the items describe their family on a 5-point Likert scale. Sum variable was constructed for children (α = .65).

Demographic variables include family SES (family economic situation, parental education and work situation, civic status) and family size and structure that were reported by parents (either mother or father). Children reported their age and gender.

Statistical Analysis

Data was analyzed using Mplus 5.2 (Muthén & Muthén, 1998). Missing data were handled with full information maximum likelihood (FIML) estimation and non-normality was allowed by maximum likelihood estimation with robust standard errors (MLR).

Two criteria were used to indicate intervention effectiveness. Compared to the control group and controlling for the baseline level, the intervention group should have statistically significantly (a) higher levels of reported prosocial behaviour and psychosocial wellbeing, and (b) more cases above the for prosocial behaviour cut-off at T2 and T3. A 95% confidence level was used as the criterion of statistical significance as well as Bonferroni-corrected confidence levels of 99.95% accounting for the 48 tests in the analysis in the present article.

Regression analysis was used to estimate the effect of the intervention on the levels of mental health after controlling for the baseline values of the mental health variables. Each indication of mental health was regressed on the intervention as a dummy variable (0 = no intervention; 1 = intervention) and on the corresponding mental health variable at the baseline.

Poisson regression with robust standard errors was used to estimate the effect of the intervention on the proportion of children having a normal level of prosocial behaviour (Zou, 2004). The dichotomy was regressed on the intervention as a dummy variable and the corresponding cutoff dummy variables at baseline.

The roles of parental acceptance and family atmosphere in moderating the intervention effectiveness were examined by adding the variables and their interaction with the intervention variable to the regression equations.

The cluster sampling procedure resulted in non-independence of observations. A form of Kish correction was used to adjust the confidence intervals to achieve a more correct type I error rate (Kish, 1965; Musca et al., 2011). The correction consisted of multiplication of the standard errors of regression weights by the design effect $[1 + \mathrm{ICC}_y \times \mathrm{ICC}_x \times (n-1)]^{0.5}$, where ICC_y and ICC_x are intraclass correlation coefficients of the mental health variables, y, and of the covariate or factor, x, respectively, and n is the average number of children in a school class (Ukoumunne et al., 1999).

Result

Descriptive Statistics

Table 1 confirms that there were no statistically significant differences between the intervention and control groups in the demographic characteristics. The type of family reflects the Palestinian statistics in the Gaza Strip (UN OCHA, 2009). About a third had extended families with grandparents and siblings-in-law in the household, while about 60% lived in a nuclear family. Two thirds (60–65%) of parents estimated the family income as low, and about fifth high. Fathers were relatively well-educated (26% polytechnics and 24% university), but almost a half (49%) were unemployed. Of mothers, 8% had a university and 40% polytechnics education, but about 90% worked at home. These numbers corresponds with general poor economic situation in the Gaza Strip during the international siege and economic blockade (UN OCHA, 2009).

Table 2 reports the means and standard deviations of outcome variables for intervention and control groups. In both groups, the mean of prosociality drops at T3.

Intervention Impact on Resilience

Against to our hypothesis, the results in Table 3 show that the intervention was not associated with statistically significant increase in the level of wellbeing or prosocial behaviour among children who reported exposure to two or more types of trauma. Instead, the intervention was statistically significantly associated with a decrease in the proportion of children above the cutoff score of prosocial behaviour. The negative effect was not statistically significant at T2 if Bonferroni-corrected confidence intervals were used ($RR = -0.15$, 95% CI [−0.26, −0.03], 99.95% CI [−0.34, 0.05], $p = .017$), but at six-month follow-up (T3), the effect was statistically significant also when corrected for the number of tests in the present article ($RR = -0.50$, 95% CI [−0.80, −0.20], 99.95% CI [−1.00, −0.002], $p = .001$). The results imply that the intervention increased (decreased) the proportion of traumatized (resilient) children according to the criterion of prosocial behaviour.

Also, against to our hypothesis, the intervention effect was not moderated by mother's acceptance and willingness to serve as an attachment figure, nor by family atmosphere.

As reported in Table 4, we did not find any statistically significant effects of the intervention or its moderation among children with exposure to one or no types of war trauma.

Discussion

War experiences can disrupt children's access to essential resources and deprive them from a sense of security, thus placing overwhelming demands for their endurance and resilience. In our study, we analyzed the possibility of a psychosocial

Table 1
Socio-demographic characteristics of intervention and control groups ($N = 482$).

Characteristic	Intervention ($n = 242$)		Control ($n = 240$)	
	n	%	*n*	%
Gender				
Boys	120	49.6	120	50.0
Girls	122	50.4	120	50.0
Age				
(10– 11) Years	150	62.0	144	60.0
(12–13) Years	92	38.0	96	40.0
Citizenship				
Refugee	23	9.5	29	12.1
Citizen	219	90.5	211	87.9
Family type				
Nuclear	103	59.5	107	64.5
Extended	57	32.9	41	24.7
Tribal	13	7.5	18	10.8
Family income				
Low	111	65.3	100	60.2
Medium	24	14.1	27	16.3
High	325	20.6	39	23.5
Father's work				
Skilled worker	32	13.2	25	10.4
Public employee	58	24.0	68	28.3
Entrepreneur	38	15.7	28	11.6
Unemployed	114	47.1	119	49.6
Mother's work				
Housewife	223	92.1	226	94.2
Skilled worker	9	3.7	5	2.1
Public employee	10	4.1	9	3.8
Father's education				
Elementary school	39	22.9	32	19.3
Secondary school	42	24.7	53	31.9
College & institute	49	28.8	39	23.5
University	40	23.5	42	25.3
Mother's education				
Elementary school	36	21.2	30	18.1
Secondary school	57	33.5	52	31.3
College & institute	64	37.6	70	42.2
University	13	7.6	14	8.4

intervention based on the Teaching Recovery Techniques (TRT) to enhance resilience among Palestinian children exposed to a major war and life threat. Results are discouraging as the only statistically significant result suggests that the intervention decreased resilience as measured by the proportion of prosocial children. It is likely to be a result of random variation which interpretation is strengthened by the fact that no significant association was observed between the intervention and the level of prosocial behaviour. However, it is worrying that point estimates for all non-moderated intervention effects were negative among the traumatized children. We also examined whether the quality of family relationships would influence the intervention effects but analyses showed no significant moderating results.

Most of the participating children had had a very severe and recent trauma, including human and material losses, shelling and witnessing atrocities. The TRT encouraged children to share their experiences and painful feelings, and provided various exercises to gain mastery over them. A great deal of efforts was dedicated to create a safe haven after the devastating experiences. Practical tools for effective problem-solving and emotion regulation were provided to help children to cope with everyday challenged of post-war society. For example, children told in the sessions that various cues in their environment evoked strong physical arousal and fears in them. Accordingly, they were learning exercises about how to soothe the overwhelming feelings and to grade incontrollable arousals. They were taught to link the war trauma with their own physical and mental responses in order to make sense of their experiences. Yet, the intervention was apparently unable to provide real protection for the children in the aftermath of intensive war trauma. The intervention involved peers but not

Table 2
Descriptive statistics of outcome variables.

Variable	T1 Baseline				T2 Post- intervention				T3 Follow-up			
	Intervention		Control		Intervention		Control		Intervention		Control	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Wellbeing	33.95	9.52	36.71	9.59	34.98	9.66	36.66	8.86	32.95	9.43	34.53	9.93
Prosociality	3.23	1.39	3.37	1.35	3.22	1.40	3.47	1.30	2.40	1.44	2.78	1.47

Table 3
Intervention's effect on psychosocial wellbeing and prosociality and its moderation by mother's acceptance and willingness to serve as an attachment figure and by family atmosphere among children with more than one type of war trauma.

Outcome	Moderator[a]	*b*	95% CI	99.95% CI[b]
Wellbeing T2		−0.76	[−2.87, 1.35]	[−4.29, 2.77]
Wellbeing T3		−1.06	[−5.48, 3.35]	[−8.45, 6.33]
Prosociality T2		−0.30	[−0.74, 0.13]	[−1.03, 0.42]
Prosociality T3		−0.50	[−1.03, 0.04]	[−1.39, 0.40]
Prosociality % T2[c]		−0.15	**[−0.26, −0.03]**	[−0.34, 0.05]
Prosociality % T3[c]		−0.50	**[−0.80, −0.20]**	**[−1.00, −0.002]**
Wellbeing T2	Acceptance	0.02	[−0.23, 0.26]	[−0.39, 0.42]
Wellbeing T3	Acceptance	0.22	[−0.28, 0.71]	[−0.61, 1.04]
Wellbeing T2	Atmosphere	−0.14	[−0.60, 0.33]	[−0.91, 0.64]
Wellbeing T3	Atmosphere	0.26	[−0.77, 1.29]	[−1.46, 1.98]
Wellbeing T2	Gender	3.05	[−1.32, 7.42]	[−4.27, 10.37]
Wellbeing T3	Gender	−3.07	[−12.10, 5.97]	[−18.18, 12.05]
Prosociality T2	Acceptance	−0.01	[−0.06, 0.05]	[−0.10, 0.08]
Prosociality T3	Acceptance	0.04	[−0.02, 0.10]	[−0.06, 0.14]
Prosociality T2	Atmosphere	−0.004	[−0.12, 0.11]	[−0.20, 0.19]
Prosociality T3	Atmosphere	−0.04	[−0.15, 0.07]	[−0.23, 0.14]
Prosociality T2	Gender	−0.06	[−0.32, 0.20]	[−0.49, 0.38]
Prosociality T3	Gender	0.06	[−0.63, 1.04]	[−1.09, 1.22]
Prosociality % T2[c]	Acceptance	0.02	[−0.01, 0.05]	[−0.03, 0.07]
Prosociality % T3[c]	Acceptance	0.02	[−0.02, 0.06]	[−0.04, 0.09]
Prosociality % T2[c]	Atmosphere	−0.01	[−0.04, 0.02]	[−0.05, 0.03]
Prosociality % T3[c]	Atmosphere	−0.06	[−0.12, 0.002]	[−0.17, 0.04]
Prosociality % T2[c]	Gender	−0.06	[−0.32, 0.20]	[−0.49, 0.38]
Prosociality % T3[c]	Gender	0.06	[−0.63, 1.04]	[−1.09, 1.22]

Note.
[a] The estimates of moderators' effects refer to the interaction term β *Moderator* × *Intervention*.
[b] 99.95% confidence interval is the result of Bonferroni correction for the 48 statistical tests of the intervention effects carried out in this paper.
[c] The effects on the proportion of prosocial children were tested by Poisson regression analysis which results in estimates of relative risk.

caregivers who are the main source of children's protection. Extending the intervention duration and number of sessions would probably have helped children transfer the applied skills to reconstructing resilience in their everyday practices.

In his review on resilience in the context of political conflict, Barber (2013) emphasizes the complexity and multidimensionality of mental functioning and resilience. They do not necessarily occur consistently and coherently, but children

Table 4
Moderation of intervention effects on psychosocial wellbeing and prosociality by mother's acceptance and willingness to serve as an attachment figure and by family atmosphere among children with one or no trauma.

Outcome	Moderator	*b*	95% CI	99.95% CI[a]
Wellbeing T2		−0.76	[−2.87, 1.35]	[−4.29, 2.77]
Wellbeing T3		−1.06	[−5.48, 3.35]	[−8.45, 6.33]
Prosociality T2		−0.30	[−1.57, 0.98]	[−2.43, 1.84]
Prosociality T3		1.04	[−0.29, 2.38]	[−1.18, 3.27]
Prosociality % T2		−0.11	[−0.44, 0.22]	[−0.66, 0.45]
Prosociality % T3		1.67	[−0.18, 2.79]	[−1.42, 4.76]
Wellbeing T2	Acceptance	0.27	[−0.30, 0.83]	[−0.68, 1.21]
Wellbeing T3	Acceptance	0.57	[−0.43, 1.56]	[−1.10, 2.23]
Wellbeing T2	Atmosphere	−0.21	[−0.97, 0.55]	[−1.48, 1.07]
Wellbeing T3	Atmosphere	0.07	[−3.00, 3.14]	[−5.07, 5.21]
Wellbeing T2	Gender	2.81	[−6.20, 11.82]	[−12.27, 17.89]
Wellbeing T3	Gender	−2.98	[−23.41, 17.44]	[−37.15, 31.18]
Prosociality T2	Acceptance	0.03	[−0.08, 0.14]	[−0.16, 0.22]
Prosociality T3	Acceptance	0.04	[−0.08, 0.17]	[−0.16, 0.25]
Prosociality T2	Atmosphere	0.04	[−0.17, 0.25]	[−0.32, 0.40]
Prosociality T3	Atmosphere	0.04	[−0.22, 0.29]	[−0.39, 0.47]
Prosociality T2	Gender	0.08	[−0.56, 0.69]	[−0.98, 1.11]
Prosociality T3	Gender	−0.05	[−2.33, 2.22]	[−3.87, 3.76]
Prosociality % T2	Acceptance	0.02	[−0.01, 0.05]	[−0.03, 0.07]
Prosociality % T3	Acceptance	0.03	[−0.04, 0.10]	[−0.09, 0.15]
Prosociality % T2	Atmosphere	0.03	[−0.05, 0.11]	[−0.10, 0.16]
Prosociality % T3	Atmosphere	0.03	[−0.08, 0.15]	[−0.16, 0.23]
Prosociality % T2	Gender	0.24	[−0.37, 0.85]	[−0.79, 1.27]
Prosociality % T3	Gender	−0.54	[−1.82, 1.93]	[−2.67, 1.58]

Note.
[a] 99.86% confidence interval is the result of Bonferroni correction for the 48 statistical tests of the intervention effects carried out in this paper.

can function well in some realms of their lives and suffer in other realms. This viewpoint concurs with the notion that psychosocial interventions, such as ours can have very specific impacts. Putting together our current and earlier results, it is noteworthy that the applied TRT could reduce children's mental health problems in certain groups (Qouta et al., 2012) but did not suffice to increase their resilience. The intervention was also able to increase warm and supportive relations with peers and to decrease negative sibling relations (Diab et al., 2014), but at the same time it failed to increase children's prosocial behaviour. Prosociality reflects the practical elements of interaction with the peers, e.g., helping someone who is hurt, whereas improved peer relations reflect the more emotional aspects, such as possibility to share secrets with friends. The applied TRT could thus contribute to only certain aspects of children's social functioning, i.e., that of a sense of social affiliation and trust in peers, but not to general resilience defined in terms of 'blossoming' and measured by psychosocial wellbeing and prosocial behaviour. The applied TRT was conducted as an extra-curriculum 16-session intervention, and was thus not embedded in the classroom work. It helped children share the painful experiences with each other and prevented them feeling isolated. It was evidently helpful to learn that others also felt helpless and fearful, and that it was not always possible to endure in extreme conditions of life threat. However, to be prosocial is highly demanding, as it indicates an ability to see other people's needs and respond to them in practice (Eisenberg, Spinrad, & Eggum, 2010). To enhance prosocial behaviour and other indicators of resilience among traumatized children might require a different kind of intervention.

A review on intervention effectiveness among war-affected children and adolescents (seven RCT studies) concluded that well-structured interventions of long-enough duration have positive mental health effects, including resilience (Barry, Clarke, Jenkins, & Patel, 2013). The optimum would be universal school programmes for all exposed children alongside with targeted, more therapeutic interventions for those with high risks or severe traumatization. The preventive science advocates for the whole-school programmes that enhance good mental health, peer relations, and developmental potentials as embedded elements in everyday school practices (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). That approach could apparently serve sustainability of children's good mental health also in war conditions, as schools are natural environments to rebuild the shattered worlds of traumatized children. One successful example of multicomponent and holistic, although extra-curriculum, programme were structured activities among Palestinian children, lasting for one year and involving recreational and cultural programmes, and parental involvement in community settings (Loughry et al., 2006).

Our intervention, TRT, was based on the CBT principles suggesting that dysfunctional appraisals, biased meanings given to trauma, and feeling of continued threat maintain the PTSD symptoms. Further, PTSD is likely if children interpret their own responses to trauma as indicating inferiority, helplessness, and inability of cope with future trauma (Ehlers & Clark, 2000; Foa & Cahill, 2001). The CBT-based interventions can thus be criticized for not inviting and strengthening the existing community resources or collective coping capacities (Kieling et al., 2011; Ungar, 2012, 2013). There is a general call that programmes for helping children's recovery should shift their foci more towards the ecologies of the military conflict by extending from individual functioning towards strengthening political, cultural, social, and economic resources (Barber, 2013; Ungar, 2012). Palestinian children, similar to others facing military threat and oppression, feel responsible for the dignity, justice, and security of their nation and families. A short CBT-based intervention may not have genuinely grasped the conflicts and dilemmas that children experience when realizing their defeated hopes in the aftermath of major losses and destruction. Yet, a challenge for tailoring comprehensive and effective help is how to practically integrate actual conditions of human rights, safety, and justice with psychological and social aspects of recovery, resistance, and resilience.

Optimal family relations are considered crucial for children's healthy development in general and especially in conditions of war when their sense of security is threatened (Peltonen et al., 2010). Our results could not, however, confirm that the mothers' ability and willingness to be a secure attachment figure could make the psychosocial intervention more effective in increasing children's resilience. The result may contribute to the criticism about the conceptualization of resilience predominantly through child- and family-related factors, and ignoring wider political, cultural, and societal resources (Ungar, 2012, 2013). The military siege and international boycott prevented families in Gaza from building up their homes and returning to normal life after the war, which may partly contribute to the results. We did not test whether the amount of trauma or other social factors moderated the intervention effects and cannot therefore make further inferences about their relative importance. There is, however, general view in the Palestinian community that warm and strong family relations contribute to the 'secret of resilience' in the long-lasting military violence (Spellings, Barber, & Olsen, 2012; Thabet, Abdulla, El Helou, & Vostanis, 2006). It emphasizes the centrality of the extended family structure and tight relations in providing children with opportunities to trust others, learn how to endure adversities, and share experiences of mastery. It is apparent that in the midst of war parents and relatives make their best to provide children a sense of security, assurance, and comfort. The planning and implementing of more effective and culturally apt long-term psychosocial preventive interventions could join that community effort.

We examined whether the maternal attachment and family atmosphere would have different roles in intervention vs. control conditions. The statistical tests of moderating effects answer to questions of 'what works for whom' (Fonagy, 1998), providing here two opposite ideas. Children with sufficient resources, such as good family relations, do better in interventions than those who lack resources, or the children with problematic relations benefit more from help, because they are in deeper need, and getting support is a real, new and illuminating experience. Yet, our results showed that neither attachment availability nor family atmosphere moderated the intervention effects on children's resilience.

The study has a number of limitations. The findings should be interpreted cautiously, as the reliabilities of prosocial scales and maternal attachment availability are low or only moderate. The total score of SDQ is commonly used in Arab culture, but experiences with the prosocial scale are limited (Thabet et al., 2000). The study should further be criticized for relying solely

on the children's own information concerning the resilience criterion variables. Including peers as source of information about prosocial behaviour might have strengthened the study. Furthermore, the TRT intervention was applied to match the needs of war-shattered children with short concentration span and to emphasize the culturally-relevant elements such as symbolism and dream work, which complicates the comparison with other TRT studies. Finally, the results are difficult to generalize even into context of contemporary wars, as the military siege and international boycott make the everyday life and access to resources almost impossible in Gaza-Palestine. The generalization of the results should be limited to the aftermath of major wars and military operations where civilians are prevented from access to normative outside help, including psychosocial interventions.

In conclusion, the TRT intervention was tailored to help children to cope with traumatic events, promote their mental health and decrease posttraumatic symptoms. The present study did not find an effect on the levels of psychosocial wellbeing or prosocial behaviour among war trauma-exposed children. The results imply that the applied version of TRT has quite specific effects. Although the intervention improved the quality of peer and sibling relations (Diab et al., 2013), the effects do not extend to prosocial behaviour and general wellbeing, indicating resilience in high trauma. Planners of future programmes could consider adding components targeting explicitly to the aspects of resilience they hope to increase. Future programme evaluations should be precise in the definition and measurement of resilience, because there are many aspects of positive development and interventions might influence only some of them. As important is to recognize which aspects are not possible to address in group- and individual intervention processes.

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Can functional emotion regulation protect children's mental health from war trauma? A Palestinian study

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Effective emotion regulation (ER) is expected to protect mental health in traumatic stress. We first analysed the protective (moderator) function of different ER strategies and the associations between ER and mental health. Second, we tested gender differences in the protective function of ER and the associations between ER strategies and mental health. Participants were 482 Palestinian children (girls 49.4%; 10–13 years, $M = 11.29$, $SD = .68$) whose ER was assessed by the Emotion Regulation Questionnaire and mental health by post-traumatic stress (Children's Impact Event Scale), depressive, and psychological distress (Strengths and Difficulties Questionnaire) symptoms, and by psychosocial well-being (Mental Health Continuum-Short Form). War trauma involved 42 events. Results showed, first, that none of the ER strategies could protect a child's mental health from negative impact of war trauma, but self-focused ER was associated with low depressive symptoms, and other-facilitated ER with high psychological well-being. However, controlling of emotions formed a comprehensive risk for children's mental health. Second, gender differences were found in the protective role of ER, as self-focused and distractive ER formed a vulnerability among boys. The results are discussed in the context of emotional and regulative demands of war and life-threat.

Keywords: Emotion regulation; Child's mental health; War trauma.

In the Middle East, we say, "Emotions are the olive oil of the human psyche," referring to the comprehensive healing and symbolic power of both. Emotion regulation (ER) refers to a person's attempts to modify, control and seek help in order to maintain appropriate valence, intensity and duration of the emotional experiences (Eisenberg & Morris, 2002; Gross & John, 2003). Effective ER can be especially vital in war conditions that threaten children's well-being and force them to struggle with emotions. Available studies have analysed direct associations between ER and mental health problems such as post-traumatic stress disorder (PTSD); but not the potential protective function of ER. Further, boys and girls show different responses to traumatic events (Tolin & Foa, 2006), and are found to use specific strategies of ER (Zimmermann & Iwanski, 2014). Accordingly, we analyse what kind of ER can protect mental health among Palestinian children exposed to severe war experiences, with specific focus on gender differences.

The context of the present study is the long-lasting Israeli–Palestinian conflict, where children experienced the war on Gaza 2008/2009 ("Operation Cast Lead" in the Israeli military terms). The 23-day war claimed 1417 Palestinian lives, including 313 children, and injured 5303, including 1606 children. Approximately 100,000 people were displaced (United Nations Human Rights Council, 2009; United Nations Office for the Coordination of Humanitarian Affairs [UN: OCHA], 2009).

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Furthermore, children and their families are severely affected by 9 years of Israeli military siege and international economic boycott.

There is ample evidence that exposure to war trauma can negatively impact children's mental health and development (Attanayake et al., 2009; Reed, Fazel, Jones, Panter-Brick, & Stein, 2012), including research on Palestinian children (Khamis, 2015; Peltonen, Qouta, El Sarraj, & Punamaki, 2010; Thabet, El-Buhaisi, & Vostanis, 2014). Research confirms that war-affected Palestinian children attempt to maintain their developmental integrity and mental health by employing effective coping strategies and seeking safety (Khamis, 2015; Punamäki, 2014).

Children can regulate painful and overwhelming emotions through self-regulation by self-soothing when frightened or consoling when sad (intrinsic regulation), or/and through affecting others' behaviours and feelings in mutual interactions (extrinsic regulation; Eisenberg & Morris, 2002; Rydell, Thorell, & Bohlin, 2007). Researchers agree that ER involving moderate control and manipulation of feelings is functional or effective, while both over- (hyper) and under- (hypo) regulation predict problems in mental health and development (Eisenberg & Silver, 2011). Over-regulating children deny and neglect their aroused emotions and rigidly control their behaviour. Under-regulating children typically accentuate their aroused emotions, act impulsively or aggressively and subsequently can come into conflict with parents and peers (Kim & Cicchetti, 2010).

The research on functional or effective role of ER in maintaining good mental health is available on war-affected children. A study among war-affected Ugandan adolescents found denial, rumination and blaming others to be dysfunctional ER strategies, associating with severe PSTD symptoms (Amone-P'Olak, Garnefski, & Kraaij, 2007). Research confirmed that political conflict increased dysfunctional ER among Kenyan preschool children ($N = 84$), which predicted aggressive and non-prosocial responses (Kithakye, Morris, Terranova, & Myers, 2010). A follow-up study among Russian children exposed to Chechen military attack found that emotion and thought suppression, and avoidance increased PTSD symptoms (Moscardino, Scrimin, Capello, Alto, & Axia, 2008).

Research shows gender differences in ER strategies. For instance, in a German study ($N = 1305$), girls reported more social support seeking and dysfunctional rumination, while boys showed more passivity, avoidance and suppression (Zimmermann & Iwanski, 2014). Also, in an American study ($N = 155$), boys endorsed high levels of sadness inhibition and tended to dampen or modify their overt expressions of sadness, whereas girls frequently expressed sadness (Perry-Parrish & Zeman, 2010). Among war-affected Russian children ($N = 71$), avoidant coping strategies were associated with mental health problems, when directly exposed to military violence. Avoidant strategy was dysfunctional, only among girls, when indirectly exposed (Moscardino et al., 2008).

Research tasks

ER can be important in war conditions, and thus knowledge is pivotal about ER that helps children maintain good mental health despite trauma. Our first aim was to test the protective (moderator) function of different ER strategies among Palestinian children as well as the direct associations between ER and multiple mental health outcomes. The ER was conceptualised as children's use of intrinsic, extrinsic, controlling and distracting strategies to regulate intensive feelings of sadness, fear and anger (Rydell et al., 2007). The criterion for protective function is that exposure to severe war trauma does not associate with children's mental health, indicated by PTSD, depressive and psychological distress symptoms, and by psychosocial well-being, when they use functional ER (Significant trauma × ER interaction effects in moderation models). Second, we test whether the protective function of ER differs between boys and girls or if there are gender differences in the direct associations between ER strategies and mental health.

METHOD

Participants and procedure

The participants were 482 Palestinian boys (50.6%) and girls (49.4%) who were 10–13 years old ($M = 11.29$, $SD = .68$). They represent the baseline group of a randomised controlled study of the effectiveness of a psychosocial intervention among war-affected children (*name omitted due to anonymity*).

The clustered random sampling was conducted in two regions (North Gaza and Gaza City) of the Gaza strip that were the most severely bombed and shelled during the 2008–2009 war on Gaza. In both regions, from a list of schools provided by the Ministry of Education, two schools were randomly selected. In each of the schools, two girls' and two boys' fifth and sixth grade level classes were randomly sampled (a total of 16 classes). The planned eligible sample was 500, but, for various logistical reasons, 18 children did not participate.

The Ministry of Education and the Gaza Community Mental Health Programme reviewed and ethically approved the study protocol and measures. The headmasters of the schools endorsed the study procedure. Parents received an information sheet that included an explanation of the purpose of the study and a request for parents'

consent for the targeted child to participate in the study. Verbal consent for child's participation was obtained from parents and children. Symbolic presents were given to all participating children. Six research assistants introduced the research questionnaires in the classrooms, and the third author (SQ) trained and supervised them.

Measures

War trauma

A trauma event checklist of 42 events was used, capturing Palestinian children's typical experiences during the war on Gaza 2008/2009 and the military occupation. It is based on earlier checklist used in Gaza (Qouta, Punamaki, & El Sarraj, 2005), and covers (a) child-targeted violence (12 events, such as being wounded and beaten), (b) family-related losses (10 events, such as death of father, mother, siblings or friends, loss of home and being separated during the war), (c) witnessing horrors (12 events, such as witnessing people being injured or dying, and seeing body parts) and (d) material destruction (8 events, such as neighbourhood was demolished). Children reported whether they had been exposed to each event (1 = *yes*; 0 = *no*) during the war or earlier, and a sum variable was constructed by counting "yes" answers.

Emotion regulation

We applied the Emotion Regulation Questionnaire (ERQ) for Children (Rydell et al., 2007) that conceptualises emotionality and strategies of intrinsic (self-regulation) and extrinsic (regulation with the help of adults) ER for sadness, anger, fear and exuberance in contexts of school, family and peer relations. Children were presented with 22 vignettes of each emotion (see examples below) and evaluated by a 4-point Likert scale how they would regulate their evoked emotions (1 = *does not apply to me at all* to *4 = applies very much to me*).

We made two modifications to the original ERQ: First, only the negative emotions of fear, anger and sadness were included as they were considered salient for children in post-war conditions (Punamäki, 2014), thus, omitting the exuberance. Second, the original ERQ was meant to measure intensity of regulation, and not the contents of ER strategies that are important to war-affected children (Amone-P'Olak et al., 2007). Accordingly, we examined the dimensionality of the ERQ by a principal component analysis (PCA) with varimax rotation. The PCA served two purposes: Firstly, the tool was used first time in the Palestinian context and we were interested in contents of ER strategies. Secondly, the varimax rotation of the PCA provided ER scores that would not correlate with each other. The results of the PCA revealed four factors, depicting control and distraction as ER dimensions in addition to the intrinsic and extrinsic ER. The four dimensions are *Self-focused emotion regulation* (five items, Cronbach's $\alpha = .82$, e.g., "If I get scared, I can calm down on my own"), *Control-enhancing emotion regulation* (eight items, $\alpha = 74$, e.g., "If I am angry and my teacher tells me to calm down, I can control myself"), *Distracting as emotion regulation* (five items, $\alpha = .60$, e.g., "When I am angry, I can think of something that stops me from being angry) and *Other-facilitated emotion regulation* (four items, $\alpha = .68$, e.g., "When I am sad, somebody can easily help me cheer up"). The full contents of the PCA dimensions in this sample have been reported earlier (See Appendix in *Reference omitted for anonymity*.)

Post-traumatic stress symptoms

The 13-item Children's Impact Event Scale (CRIES; Dyregrov & Yule, 1995), based on the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition), covers the three core dimensions of post-traumatic stress symptoms (PTSS): re-experiencing (four items), avoidance (four items) and hyper-arousal (five items) symptoms. Children indicated on a 4-point scale how often they had had each symptom during the last 2 weeks (0 = *not at all*, 3 = *often*). Total score was formed with the α-values of .76. This scale was previously used in Gaza and found to be reliable and valid (Thabet, Abu Tawahina, El Sarraj, & Vostanis, 2007).

Depressive symptoms

We applied the Depression Self-Rating Scale for Children by (Birleson, Hudson, Grey-Buchanan, & Wolff, 1987). This 18-item self-report instrument assesses the cognitive, affective and behavioural dimensions of depression. Children estimated on a 3-point scale whether they had had each symptom during the last 2 weeks (0 = *not at all*, 2 = *all the time*). The depression score was constructed with the α-values of .78.

Psychological distress

We used the self-report version of the Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997) to assess emotional, behavioural and relational problems, hyperactivity and prosocial behaviour. Each of the five dimensions consists of five items. On a 3-point scale, children evaluated how well the description fit them (0 = *not at all*, 1 = *somewhat*, 2 = *yes*, *fit well*). A total score of psychological distress was constructed with the α-value of .71.

Psychosocial well-being

The Mental Health Continuum-Short Form (MHC−SF; Keyes et al., 2008) is a 14-item scale to

measure emotional, psychological and social well-being. It covers, for instance, positive emotional affects (*I have warm and trusting relationships with others*), psychological autonomy and self-acceptance (*I feel happy*) and social contribution and coherence (*the way our society works makes sense to me*). The children evaluated each item on a 5-point scale indicating how often they had had the feelings or thoughts during the past 2 weeks (0 = *never*; 4 = *every day*). The averaged summed variable was formed and had α-value of .80.

Translation

All questionnaires were in Arabic. The measures of ER and psychosocial well-being were translated from English to Arabic, and back translated by a bilingual psychologist, and reviewed by the research team. The Arabic versions of CRIES-R and Birleson Depressive symptoms are from Children and War Foundation (http://www.childrenandwar.org/measure) and the SDQ from Thabet, Stretch, and Vostanis (2000).

Statistical analysis

To describe background variables in the sample, and exposure to war trauma among boys and girls, $\chi 2$ statistics were applied. Pearson moment product correlations were used to analyse primary associations between study variables, as they were predominantly normally distributed. To examine the role of ER strategies in protecting children's mental health from negative war trauma impact, stepwise linear regression models were used (Table 1). The dependent variables were PTSD, depressive and psychological distress symptoms, and psychosocial well-being. The first step included control variables of age and gender, and the second step included the sum of war trauma. In the third step, the four dimension variables of ER strategies were entered, and in the final step, the four corresponding interaction terms between war trauma and ER variables were entered to assess the possible moderating effects. The ER variables (self-focused, control-enhancing, distracting and other-facilitated) were the PCA scores in order to avoid the inter-correlations between these independent variables. The war trauma was centred before constructing the interaction terms to prevent low variances of regression coefficients and problems of multicollinearity. To analyse the second research task (whether the protective role of ER in children's mental health and direct associations were gender-specific), we ran the same regression models separately on the boys' and girls' groups (except the first step included only the child's age).

The Benjamini–Hochberg procedure was used to correct the significance levels against false positive discoveries in multiple tests (Benjamini & Hochberg, 1995). The sample included 16 school classes, with 31 children on average. The non-independence of observations can cause biases due to the reduced sample variation. The clustering biases were checked by estimating the intraclass correlations (ICC) within school classes and their design effects (DEFF) for the regression coefficients involving war trauma, ER and mental health variables. If the DEFF would have been larger than 2.00, 95% confidence intervals would have been corrected for cluster effects (Musca et al., 2011). However, we found no regression weights with DEFF larger than 2.00.

RESULTS

Descriptive statistics

Most children (86%) lived in urban areas, while others lived in refugee camps and villages. Parental education levels differed as 24% of fathers and 8% of mothers had a university degree, while 26% of fathers and 40% of mothers had a polytechnic education. The rate of unemployment for fathers (49%) was consistent with general Palestinian statistics in the Gaza strip during the international siege and economic blockade (UN: OCHA, 2009). Over 90% of mothers worked at home, which is higher than reported epidemiological data from Gaza (UN: OCHA, 2009).

There were very few gender differences, but age associated with ER. Girls ($M = 2.92$, $SD = 0.05$) reported more other-facilitated ER than boys ($M = 2.60$, $SD = 0.05$), $F(1, 480) = 20.77$, $p < .0001$). Early adolescents (12–13 years) reported lower levels of self-focused $F(1, 480) = 3.75$, $p < .04$), other-facilitated $F(1, 480) = 6.38$, $p < .01$) and distracting $F(1, 480) = 4.58$, $p < .02$) ER than those in the middle childhood (10–11 years).

Exposure to war trauma

Table S1 (Supporing Infomation) shows the percentages and frequencies of some events of war trauma separately among boys and girls. Significant gender differences were reported regarding child-targeted violence, as more than three quarters (79%) of boys and two thirds (67%) of girls reported "nearby shelling and close to injury," $\chi^2(2, N = 482) = 7.6$, $p > .01$. As far as family-related losses, the majority of boys (73%) and girls (84.5%) reported that they were "separated from family during war," $\chi^2(2, N = 482) = 7.8, p > .01$. As far as witnessing horrors, 70% of boys and 59% of girls reported "seeing body parts of martyrs or dead people," $\chi^2(2, \mathrm{N} = 482) = 6.17$, $p > .05$. Lastly, as for material destruction, 62% of boys reported "loss in family property," $\chi^2(2, N = 482) = 11.9$, $p > .01$, while 47.5% of girls reported "loss in source of living," $\chi^2(2, N = 482) = 7.4, p > .01$.

TABLE 1
Hierarchical linear regression models for PTSD, depressive and psychological distress symptoms and psychosocial well-being with main and interaction effects of war trauma and emotion regulation (ER) ($N = 482$)

	PTSD symptoms					*Depressive symptoms*				
	R^2	*F-value* ΔR^2	*B*	*SE*	β[c]	R^2	F-*value* ΔR^2	*B*	*SE*	β[c]
I. Control variables	.01	1.13				.00	0.34			
Gender			0.08	1.02	.01			0.48	.44	.05
Age			1.33	.70	.09			−0.01	.30	−.01
II. War trauma[a]	.01	3.84*	0.17	.11	.08*	.03	12.81****	0.12	.05	.13**
III. Emotion regulation[b]	.06	5.74****				.15	16.86****			
Self-focused			0.27	.45	.03			−1.07	.20	−.23****
Control-enhanced			2.02	.47	.19****			1.29	.21	.27****
Distraction			1.05	.46	.10*			0.09	.20	.02
Other-facilitated			−0.34	.49	−.03			−0.07	.21	−.02
IV. Interaction effects	.08	2.39*				.16	0.87			
Trauma × Self-focused			−0.35	.10	−.11*			0.03	.04	.03
Trauma × Control-enhanced			0.12	.10	.01			−0.07	.04	−.07
Trauma × Distraction			−0.14	.10	−.08			0.01	.04	.02
Trauma × Other-facilitated			0.02	.10	.01			0.00	.04	.01
Models	$F(11, 470) = 3.57$, $p < .0001$; 8% explained variance					$F(11, 470) = 7.23$, $p < .0001$; 16% explained variance				

	Psychological distress					*Psychosocial well-being*				
	R^2	*F-value* ΔR^2	*B*	*SE*	β[c]	R^2	*F-value* ΔR^2	*B*	*SE*	β[c]
I. Control variables	.01	3.47*				.02	3.63*			
Gender			−0.78	.48	−.07			0.39	.93	.02
Age			0.15	.34	.02			1.41	.64	.10*
II. War trauma	.04	14.12****	0.11	.05	.10*	.02	2.72	−0.13	.10	−.07
III. Emotion regulation	.18	19.56****				.07	6.05****			
Self-focused			−0.44	.23	−.08*			0.65	.43	.07
Control-enhancing			1.92	.23	.36****	.		−1.46	.43	−.15***
Distraction			0.22	.22	.04			0.80	.43	.08
Other-facilitated			−0.03	.23	−.01			1.11	.44	.12**
IV. Interaction effects	.18	0.39				.08	1.54			
Trauma × Self-focused			0.01	.05	.01			0.01	.09	.01
Trauma × Control			0.01	.05	.01			0.14	.09	.07
Trauma × Distraction			−0.02	.05	−.02			−0.06	.09	−.01
Trauma × Other-facilitated			0.05	.05	.05			−0.18	.09	−.09*
Models	$F(11, 470) = 9.44$, $p < .0001$; 18% explained variance					$F(11, 470) = 3.72$, $p < .0001$; 9% explained variance				

Note: PTSD = post-traumatic stress disorder.
[a]Three months after the Gaza war (The Israeli Cast Lead Operation 2008/2009). [b]Emotion regulation variables are factor scores based on principal component analysis (PCA) of Emotion Regulation Questionnaire (ERQ) by Rydell et al., 2007. [c]β-values are from the final forth step of the regression models.
*$p < .05$. **$p < .01$. ***$p < .001$. ****$p < .0001$.

As high as these prevalence levels are concerning children's experience during the 2008/2009 War on Gaza, they are lower than studies of children in the Gaza Strip during the 2014 War on Gaza and the Second (Al Aqsa) Intifada in 1980s. According to Thabet et al. (2014), 86–89% of Palestinian children reported witnessing shelling, artillery and jetfighters' attacks in the war on Gaza in 2014, lasting 52 days and resulting in extensive human and material losses. Similarly, earlier, during Al Aqsa Intifada, Qouta et al. (2005) reported that 97% of children had witnessed shooting. In our study, 32% of boys and 17% of girls witnessed the killing of a friend, while 30% of boys and girls had this trauma in the Thabet et al. (2014) study.

Correlation analyses

Pearson product moment correlations between war trauma, ER dimensions and mental health are presented in Table 2. Total war trauma, especially child-targeted violence and material destruction, were positively correlated with control-enhanced ER for both genders; and total war trauma and child-targeted violence with distracting

TABLE 2
Pearson correlations between war trauma, emotion regulation, and mental health according to gender

		Gender	1	2	3	4	5	6	7	8	9	10	11	12	13
War trauma															
1	Child-targeted violence	Boys													
		Girls													
2	Family-related losses	Boys	.667**												
		Girls	.484**												
3	Witnessing horrors	Boys	.379**	.326**											
		Girls	.462**	.359**											
4	Material destruction	Boys	.602**	.553**	.414**										
		Girls	.564**	.533**	.437**										
5	Total war trauma	Boys	.836**	.791**	.693**	.821**									
		Girls	.774**	.727**	.780**	.817**									
Emotion regulation (ER)															
6	Distraction	Boys	−.073	−.077	.072	−.035	−.032								
		Girls	.200**	.097	.053	.095	.132*								
7	Control-enhanced	Boys	.274**	.185**	.122	.169**	.237**	.019							
		Girls	.269**	.100	.117	.193**	.211**	.148*							
8	Other-facilitated	Boys	−.001	.023	.068	.037	.042	.368**	.103						
		Girls	.016	−.048	−.025	−.072	−.044	.168**	−.055						
9	Self-focused	Boys	−.103	−.154*	.098	.048	−.027	.344**	−.047	.228**					
		Girls	.010	−.015	.011	−.008	.000	.225**	−.061	.220**					
Mental health															
10	Post-traumatic stress symptoms	Boys	−.012	.021	.106	.097	.071	.127*	.043	−.051	.111				
		Girls	.247**	.158*	.075	.263**	.228**	.105	.347**	−.051	−.005				
11	Depressive symptoms	Boys	.264**	.139*	−.081	.118	.135*	−.070	.272**	−.149*	−.189**	−.001			
		Girls	.215**	.111	.118	.185**	.198**	.049	.353**	−.226**	−.208**	.221**			
12	Psychosocial well-being	Boys	.139*	.051	.042	.069	.096	−.046	−.099	−.052	.053	.045	.003		
		Girls	−.007	−.006	−.009	−.012	−.011	.064	−.046	.086	.042	−.075	−.075		
13	Psychological distress	Boys	−.030	.024	−.029	.057	.006	.073	−.018	−.037	−.024	.056	.048	−.244**	
		Girls	.036	−.067	−.079	−.034	−.053	.091	.049	.143*	.019	−.041	−.017	−.290**	

*$p < .05$. **$p < .01$. **$p < .001$. ***$p < .0001$.

ER for girls. Further, among boys, family-related losses correlated positively with distracting ER, but negatively, with other-facilitated ER.

Concerning mental health, significant positive correlations were found between total war trauma, especially child-targeted violence, and depressive symptoms in both genders. Also, family losses positively correlated with boys' material destruction and with girls' depressive symptoms. War trauma, especially child-targeted violence, family losses, and material destruction correlated positively with PTSD symptoms, only for girls. Unexpectedly, among boys, child-targeted violence positively correlated with psychosocial well-being. Finally, significant positive correlations were found between control-enhanced ER and depressive symptoms for both genders, and PTSD symptoms for girls. On the contrary, other-facilitated and self-focused ER were negatively correlated with depressive symptoms for boys and girls.

Protective function of ER

Table 1 presents the results of regression analysis of war trauma and ER strategies on children's mental health, revealing highly significant models ($p < .0001$), but relatively low explained variances (8–16%). The significant interaction effects between war trauma and ER were found only for PTSD symptoms and psychosocial well-being. Yet, ER strategies were directly significantly associated with children's mental health (main effects, Step III for all indicators, $p < .0001$).

Results show significant interaction effects between war trauma and self-focused ER on PTSD symptoms

TABLE 3

Hierarchical linear regression models for PTSD, depressive and psychological distress symptoms and psychosocial well-being with main and interaction effects of war trauma and emotion regulation (ER) among girls ($n = 238$) and boys ($n = 244$)

	PTSD symptoms						*Depressive symptoms*					
	Girls			*Boys*			*Girls*			*Boys*		
	B	*SE*	β[c]	*B*	*SE*	β[c]	*B*	*SE*	β[c]	*B*	*SE*	β[c]
I. Control variable												
Age	0.26	1.13	.02	2.18	.90	.15*	0.53	.52	.07	−0.25	.38	−.04
II. War trauma[a]	.20	.16	.08	9.17	.15	.08	0.16	.07	.14*	.09	.06	.09
III. Emotion regulation[b] (ER)												
Self-focused	−0.59	.67	−.06	0.50	.67	.05	0.89	.31	−.18**	−1.16	.29	−.26****
Control-enhanced	3.09	.63	.32****	0.97	.76	.09	1.41	.30	.31****	1.22	.32	.25****
Distraction	0.96	.69	.09	1.48	.67	.14*	−0.07	.32	−.01	−0.21	.28	−.05
Other-facilitated	1.13	.69	.11+	−1.30	.74	−.12+	−0.32	.32	−.06	0.30	.31	.06
IV. Interaction effects												
Trauma × Self-focused	−0.10	.70	−.04	−0.38	.14	−.18**	0.04	.08	.03	0.03	.06	.04
Trauma × Control-enhanced	0.11	.16	.05	0.04	.15	.02	0.01	.08	.01	−0.08	.06	−.09
Trauma × Distraction	0.06	.18	.02	−0.35	.13	−.18**	0.01	.08	.01	0.03	.05	.03
Trauma × Other-facilitated	0.22	.17	.09	0.03	.14	.02	0.04	.08	.03	−.05	.06	−.06
F for changes in R^2												
Step I	0.02			3.18+			1.49			0.01		
Step II	5.58*			0.54			8.76**			4.91*		
Step III	7.66****			1.95+			10.36****			7.33****		
Step IV	0.61			3.94**			0.12			0.97		
Models	$F(10, 227) = 3.91$, $p < .0001$; $R^2 = .15$			$F(10, 233) = 2.79$, $p < .003$; $R^2 = .11$			$F(10, 226) = 5.31$, $p < .0001$; $R^2 = .19$			$F(10, 232) = 3.86$, $p < .0001$; $R^2 = .14$		

	Psychological distress						*Psychosocial well-being*					
	Girls			*Boys*			*Girls*			*Boys*		
	BS	*SE*	β[c]	*B*	*SE*	β[c]	*B*	*SE*	β[c]	*B*	*SE*	β[c]
I. Control variable												
Age	−0.44	.54	−.05	−0.09	.45	−.01	0.92	1.12	.06	1.66	.79	.13*
II. War trauma[a]	0.04	.07	.03	0.11	.08	.11	−0.04	.16	−.02	−0.25	.13	−.14*
III. Emotion regulation[b]												
Self-focused	−0.81	.32	.15**	−0.06	.34	.01	0.57	.67	.06	1.04	.60	.11+
Control-enhanced	2.09	.30	.43****	1.71	.38	.30****	−1.45	.62	−.16*	−1.84	.67	−.19**
Distraction	0.13	.33	.02	0.21	.33	.04	1.72	.68	.17**	0.05	.59	.01
Other-facilitated	−0.09	.33	−.02	−0.27	.37	−0.05	1.47	.68	.15*	1.29	.65	.13*
IV. Interaction effects												
Trauma × Self-focused	0.06	.08	.05	−0.05	.07	−.05	0.13	.17	.05	−0.10	.12	−.06
Trauma × Control-enhanced	0.10	.07	.09	0.01	.07	−.01	0.11	.16	.05	0.23	.13	.13+
Trauma × Distraction	0.02	.08	.01	−0.02	.06	−.02	0.10	.18	.04	−0.02	.11	−.01
Trauma × Other-facilitated	−0.17	.08	−.14*	−0.01	.07	−.01	−0.09	.16	−.04	−0.28	.13	−.16*
F for changes in R^2												
Step I	0.25			0.03			0.07			3.13+		
Step II	3.52+			10.41***			0.54			2.26		
Step III	16.14****			6.26****			4.78***			2.11+		
Step IV	1.51			0.16			0.53			1.65		
Models	$F(10, 227) = 7.60$, $p < .0001$; $R^2 = .25$			$F(10, 233) = 3.65$, $p < .0001$; $R^2 = .10$			$F(10, 227) = 2.17$, $p < .02$; $R^2 = .09$			$F(10, 233) = 2.07$, $p < .03$; $R^2 = .08$		

Note: PTSD = post-traumatic stress disorder.

[a]Three months after the Gaza war (The Israeli Cast Lead Operation 2008/2009). [b]Emotion regulation variables are factor scores based on principal component analysis (PCA) of Emotion Regulation Questionnaire (ERQ) by Rydell et al., 2007. [c]β-values are from the final forth step of the regression models. *$p < .05$. **$p < .01$. ***$p < .001$. ****$p < .0001$.

(β = −.11, $t = 1.89$, $p < .05$), and between war trauma and other-facilitated ER on psychological well-being (β = .09, $t = 1.54$, $p < .05$). Yet, according to Benjamini and Hochberg (1995) corrections for multiple analysis, only *p*-values less than .02 would not support the null hypothesis of a non-zero association. We may, therefore, conclude that no significant War trauma × ER interaction effects were found in the whole group, and none of children's ER strategies could fulfil the protective function of maintaining good mental health consequent to exposure to high level of war trauma.

Main effects revealed that high level of control-enhancing ER was associated with higher levels of PTSD, depressive and psychological distress symptoms, and with a lower level of psychosocial well-being (β-values ranging between −.15 and .36). Distracting ER was associated with a higher level of PTSD symptoms (β = .10, $t = 2.25$, $p < .02$), whereas a high level of self-focused ER was associated with lower levels of depressive (β = −.23, $t = -5.29$, $p < .0001$) and psychological distress (β = −.08, $t = -2.00$, $p < .05$) symptoms. Finally, other-facilitated ER was associated with a higher level of psychosocial well-being (β = .12, $t = 2.51$, $p < .01$). After Benjamini and Hochberg (1995) corrections, results confirmed significant direct associations between ER and various mental health outcomes, except between self-focused ER and psychological distress symptoms in the whole group.

As shown in Table 1, exposure to high level of war trauma was associated with high levels of PTSD, depressive and psychological distress symptoms, but did not associate with psychosocial well-being. Concerning the control variables, older children (12–13 years) had a higher level of psychosocial well-being than younger children (10–11 years).

Gender in ER and mental health

The separate regression models for boys and girls are presented in Table 3. The models were significant ($p < .02 - p < .0001$), as the explained variance ranging between 8% (boys' model for psychosocial well-being) and 25% (girls' model for psychological distress symptoms). Results revealed that the moderating effects of self-focused ER and other-facilitated ER were gender-specific, and in fact, valid only among boys.

Figure 1 illustrates schematically that, in fact, self-enhancing ER was non-protective, as exposure to war trauma was less likely to associate with PTSD symptoms, if boys used a low level of self-focused ER (β = .18, $t = 2.68$, $p < .008$). Results further showed significant War trauma × distraction ER interaction effects on PTSD among boys (β = −.18, $t = 2.74$, $p < .007$). Figure 2 illustrates that when boys are exposed to low war trauma, the low use of distracting ER was associated with a low level of PTSD symptoms, but when exposed to high war trauma, both low and high levels of distracting ER were associated with high PTSD symptoms.

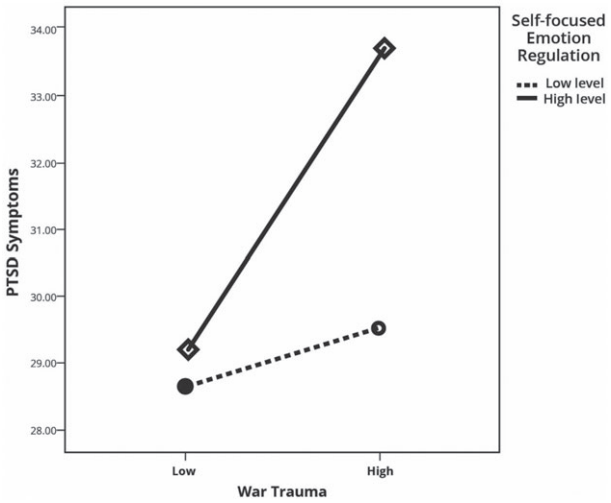

Figure 1. Association between war trauma and PTSD symptoms according to self-focused emotion regulation among boys. *Note*: The schematic picture presents the self-focused emotion regulation: Low level = −2SD and high level = +2SD above the mean.

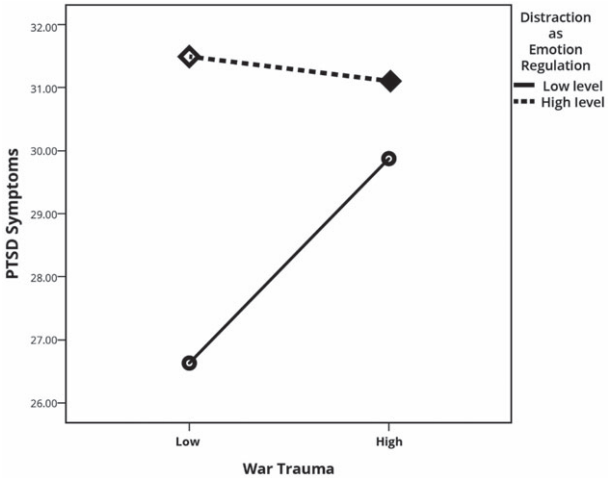

Figure 2. Association between war trauma and PTSD symptoms according to distraction as emotion regulation among boys. *Note*: The schematic picture presents the distraction as emotion regulation: Low level = −2SD and high level = +2SD above the mean.

Significant interaction effects were found between war trauma and other-facilitated ER on psychological distress symptoms for girls (β = −.14, $t = -2.19$, $p < .03$), and on psychosocial well-being among boys (β = −.16, $t = -2.25$, $p < .025$). Yet, the *F*-values for Step IV in both genders' models for other-facilitated ER were non-significant, thus preventing any interpretation.

Concerning the main effects between ER and mental health, control-enhanced ER was associated with higher levels of depressive and psychological distress symptoms,

and lower levels of psychosocial well-being for both girls and boys, and with a higher level of PTSD symptoms among girls. Self-focused ER was associated with lower levels of depressive symptoms in both genders, and with a lower level of psychological distress for girls. The *p*-values exceeded .01 in these significant direct associations, and can thus be interpreted as valid.

DISCUSSION

Our results failed to establish a protective role of ER on the mental health of war-affected Palestinian children. Yet, the findings confirmed significant direct associations between ER strategies and children's various symptoms and well-being. The moderating role of ER between war trauma and mental health was gender- and symptom-specific, being valid only among boys and concerning only PTSD symptoms.

Both intrinsic and extrinsic ER strategies were associated with good mental health, indicated by low levels of depressive and psychological distress symptoms, and high level of psychological well-being. The result supports the view that a repertoire of multiple ER tactics is beneficial for children (Aldao, Nolen-Hoeksema, & Schweizer, 2010). The repertoire of various ER strategies is effective as it allows the goodness of fit between ER and environmental demands (Thompson, 2011), which may be especially salient in war conditions.

The finding that none of the ER strategies were helping children to maintain their mental health in the presence of overwhelming threat, losses and horrors deserves attention. When children had only few war trauma, low level of distracting ER was associated with low PTSD symptoms, but could not help when trauma was high. For an outsider, war events of losses, atrocities and destruction that characterised the 2008/2009 war on Gaza, may seem highly uniform. Yet, our findings revealed that children responded in multiple ways in order to protect their mental health and maintain emotional balance.

Children who could trust in parents, friends and other people for soothing and helping them when emotionally overwhelmed, as depicted in other-facilitated ER, showed a higher level of psychological well-being. Yet, again, among children suffering from severe war trauma, the other-facilitated ER was ineffective in maintaining the positive mental health outcomes. War and life-threat are known to burden and complicate family relations, as parents may feel the guilt of not being able to protect their children, and children try to save their overwhelming parents by minimizing their emotional needs (Punamäki, 2014).

Trusting in one's self and believing in one's own regulatory abilities, as depicted in self-focused ER was generally associated with low depression symptoms. However, it was an ineffective strategy among boys who experienced severe exposure to war trauma, evidenced by higher level of PTSD symptoms. Palestinians belong to an ancient culture that appreciates collective aspirations, harmonious social relations and religious commitment. These findings may contribute to the phenomenon of multifinality as the same cause, here war trauma, is differently associated with mental health outcomes, and different ER strategies have unique associations with the positive and negative mental health outcomes and with different symptoms.

Controlling, suppressing and non-venting emotions, depicted in the control-enhancing ER, were dysfunctional. Intensive controlling formed a comprehensive general risk for increased PTSD, depressive and psychological distress symptoms, and decreased psychosocial well-being. The results are in accordance with trauma research which suggests that sharing and venting emotions are helpful (Ehlers & Clark, 2003), whereas, controlling (suppression, non-emotion expressing regulation style), as shown in our study and in Moscardino et al. (2008), forms a severe risk for children's PTSD (Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012).

The results showed gender differences in the role of ER in moderating the association between trauma and PTSD symptoms. However, boys and girls did not differ in the beneficial direct effects of intrinsic and extrinsic ER or harmful effects of controlling ER on mental health.

The relatively minor gender differences contradict both the Islamic cultural view that boys and girls have different everyday experiences and trauma research that emphasizes gender differences (Ozer, Best, Lipsey, & Weiss, 2003). However, a meta-analysis of gender-specific emotionality found "surprisingly" small differences with girls showing more positive emotions and internalizing emotions than boys, while boys showing more externalizing emotions than girls (Chaplin & Aldao, 2013).

In addition, self-focused ER formed a vulnerability to PTSD in severe exposure to war trauma among boys. It is believed that in national struggle for independence, especially, in the patriarchal Palestinian culture, trauma-exposed boys must believe in their own strength as heroes and attempt not to seek the help of others. Further, boys are encouraged, more than girls, to express themselves and to take a leading role, whereas withdrawal, distraction and inexpressiveness are acceptable among girls (Diab, Punamäki, Palosaari, & Qouta, 2014).

Not all war-related traumatic events were equally important to ER, and not all were similarly associated with ER among boys and girls. Children who were personally targeted and suffered material losses intensively controlled their emotions. Family-targeted trauma associated with high distracting ER and low other-facilitated ER. Children regard threats to the family, the core protector, as the most traumatic (Punamäki, 2014), which evokes intensive emotions and need for their regulation.

Limitations of the study

The study deserves criticism for the conceptualization and measurement of ER, the self-reported nature of the independent and dependent variables, cross-sectional study setting and low reliability of one scale (distracting ER). Although the ERQ by Rydell et al. (2007) provided salient vignettes for multiple emotions, it conceptualises only the intensity of fear, anger and sadness regulation. Our factor-based constructs of intrinsic, extrinsic, controlling and distracting regulation were more dynamic and corresponds with general ER research (Eisenberg & Morris, 2002). Yet, the reliabilities and validity of ERQ content dimensions need further testing in different trauma and cultural contexts. Our study relied solely on children's own information. Having parents, teachers and peers as sources of information would have strengthened the setting. Additionally, our results are based on a cross-sectional data serving as a baseline for an intervention study, whereas a longitudinal study would provide information on the role of ER in mental health changes when the war horrors attenuate. Finally, the context of our study is the Arab-Islamic culture and the Middle Eastern war and military conflict. The generalization of the results should be limited to conditions of intense human and material losses aftermath major military violence.

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SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

Table S1. Nature of war traumatic events among children according to gender.

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