

# Exposure to war traumatic experiences, post traumatic growth and resilience among university students in Gaza

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## Abstract

**Aim:** This study aimed to establish the association between war traumatic experiences, post traumatic growth and resilience among universities students in the Gaza Strip after war on Gaza.

**Method:** The sample consisted of 381 randomly selected student's representing the four major universities in Gaza Strip. Students completed the following self-rated questionnaires: Gaza Traumatic Events Checklist, Resilience scale, and Posttraumatic Growth Inventory. Data collection was done on March -April 2015.

**Results:** Participants reported a range of traumatic events; the highest frequencies reported traumatic events were watching mutilated bodies in TV (94.5%), hearing shelling of the area by artillery (92.4%), hearing the loud voice of drone's motors (87.4%), and inhalation of bad smells due to bombardment (78.7%). While, the least common traumatic experiences were: hearing killing of a friend (11%), and being arrested during the land incursion witnessing (18.9%). Mean traumatic events reported by universities students were 10 events. While, 6% reported mild, 36% moderate and 58% severe traumatic events. Male students reported more traumatic events than females. Mean post traumatic growth was 67.34, appreciation of life was 7.17, new possibilities were 12.25, the personal strength was 10.62, and spiritual change was 6.82. Males had significantly more post traumatic growth than females and females had significantly more spiritual changes than males. For resilience, mean resilience was 55, personal competence was 22.32, positive acceptance was 13.49, trust in one's instincts was 16.30, control was 7.96, and spiritual influences were 7.31. There were gender differences on resilience subscale. Males had significantly more positive acceptance than females, trust in others, control, spiritual influences, and females had significantly more spiritual changes than males. Traumatic events had no association with post traumatic growth and total resilience. However, resilience was positively correlated with post traumatic growth.

**Conclusion:** Universities students still experienced high levels of distress few months following war on Gaza, although they remained reported trauma. Trauma was not related to resilience and post traumatic growth. This finding highlights the need for establishing special community centers at the universities to help students to overcome the impact of trauma. New programs for psychosocial support and second level intervention for students, and these should continue beyond the end of hostilities. More training courses in the impact of trauma and ways of coping must be conducted for students in the universities.

**Keywords:** Gaza, post traumatic growth, resilience, trauma, war

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## 1. Introduction

Much research has focused on the negative consequences of trauma and on coping strategies to stressful life events such as loss or suffering, the possibilities for experiencing personal growth positive psychological changes following exposure to highly challenging life circumstances have received considerable attention since the 1990s. One of the first empirical studies of growth among war refugees (Powell et al., 2003) was conducted with adult former refugees and displaced people from Bosnia; the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) was applied to measure PTG, and the total mean score ( $M = 44.1$ ) proved lower than in non-war samples. Salo et al (2005) investigated the possibility of personal growth following torture of Palestinian ex-prisoners from the Gaza strip and demonstrated the role of socioeconomic factors in enhancing PTG. However, high levels of torture among the prisoners hindered the capability of generating positive experiences and rather led to more negative emotions,

contradicting reports of higher growth among more severely traumatized groups (Tedeschi, 1999; Tedeschi & Calhoun, 1996).

Pietrzak et al. (2010), in a study of 272 predominantly older Reservist/National Guard OEF-OIF Veterans, found that 72% of the sample endorsed a significant degree of posttraumatic growth in at least one of the areas assessed, the most common of which were changing priorities about what is important in life (52.2%), being able to better appreciate each day (51.1%), and being better able to handle difficulties (48.5%).

Resilience and posttraumatic growth (PG) theory and research are rooted in the philosophical stance that emphasizes the consideration of positive (salutogenic), rather than pathological or negative factors in trauma research (Tedeschi & Calhoun 2004). Distinctions should also be made between posttraumatic growth and the concepts of resilience, hardiness, optimism, and sense of coherence. All these concepts describe certain personal characteristics that allow people to manage adversity well.

Resilience is usually considered to be an ability to go on with life after hardship and adversity, or to continue living a purposeful life after experiencing hardship and adversity. Smith (2006) defined resilience as a process that leads to “strength awareness”, but psychological resilience may be operationally defined as strength awareness itself—that is, the belief that one can persevere or accomplish goal-relevant tasks across varied challenges and adverse situations. In this definition, psychological resilience would fall squarely within one of the most widely supported and influential theories—social cognitive theory (Bandura, 1997)—and would be consistent with Beck’s (1967) theory and Lazarus and Folkman’s (1984) stress-coping theory, in which the individual assesses both the relevance of the environmental stressor (i.e., what he or she has at stake in the encounter) and his or her coping options before deciding on coping strategies to deal with the stressor. This theory’s general emphasis on “coping,” however, could be expanded to encompass “development” or “growth.”

In contrast, posttraumatic growth refers to a change in people that goes beyond an ability to resist and not be damaged by highly stressful circumstances. Calhoun and Tedeschi (2000) defined posttraumatic growth as “positive change that an individual experiences as a result of the struggle with a traumatic event” (p. 135). In contrast to the construct of resilience, in which the individual returns to baseline functioning following highly stressful or traumatic experience, posttraumatic growth is characterized by post-event adaptation that exceeds pre-event levels. Despite this interesting body of literature, there is still limited evidence on how living in areas of war and political conflict impact on university students, and which types of personal growth they may develop in response in relation to resilience. This study aimed to establish the association between war traumatic experiences, post traumatic growth and resilience among universities students in the Gaza Strip after war on Gaza.

## 2. Measures

### *Socio-demographic questionnaire*

The researcher prepared a questionnaire which included; name, gender, name of the university, class, place of residence, and family monthly income.

### *Gaza Traumatic Events Checklist (GTEC - Thabet et al. 2014):*

This described the most common traumatic experiences the population could have faced during the 51 days war on Gaza on 2014. The checklist was revised from an earlier version (Thabet et al. 2009). This checklist consists of 28 items covering three domains of events typical of the war on Gaza: (1) hearing traumatic events (items number 1-4 include hearing about killing of relatives or friends) (2) witnessing trauma (items number 5-14, experiencing witnessing of home demolition, killing of others); and (3) personal experiences (items number 15-28, being personally the target of violence, being shot, injured, or beaten up by soldiers). The respondents rated whether they had been exposed to each of these events as

(0) ‘no’ or (1) ‘yes’. A total score was estimated. The scale had high internal consistency ( $\alpha=0.89$ ) and split half was 0.85.

### *Posttraumatic growth inventory (Tedeschi & Calhoun, 1996):*

The PTGI comprises 21 items, with response choices ranging from 0-4 (0= I did not experience this change; 5= I experienced this change to a very great degree as a result of my crisis). The PTGI measures five domains of growth: (a) relating to others better (seven items, e.g. I have a greater sense of closeness with others), (b) recognizing new possibilities (five items, e.g. New opportunities are available which wouldn’t have been otherwise), (c) a greater sense of personal strength (four items, e.g. I discovered that I am stronger than I thought I was), (d) spiritual change (two items, e.g. I have a better understanding of spiritual matters), and (e) greater appreciation of life (three items, e.g. I have a greater appreciation for the value of my own life) (Tedeschi & Calhoun, 1996). This scale was translated to Arabic and back translated and was validated by Dr. Thabet. Internal consistency for the total PTGI score in this sample was also high (Cronbach’s  $\alpha = .86$ ).

### *The Connor–Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) Arabic Version (Thabet et al, 2007,2014):*

The Connor–Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) consists of 25 statements (e.g., ‘I am able to adapt when changes occur’). Each is rated by respondents on the extent of agreement over the past month (0 = ‘not at all’ to 4 = ‘true nearly all of the time’). This scale has been used in various samples showing high reliability, convergent and discriminant validity in the general population. Internal consistency for the total PTGI score in this sample was also high (Cronbach’s  $\alpha = .88$ ).

## 3. Data collection procedures

The researcher implemented structured questionnaires to collect data directly from universities students. The permission was received from the four universities mentioned before. The researcher collected data by trained field workers through coordinated the public relation offices, to the students in the four universities, either in classroom settings or outside classroom in two weeks in the second semester of the Academic year 2014/2015. Each student has completed 4 scales on 15 to 20 minutes.

## 4. Statistical analysis

Data was entered and analyzed using the Statistical Package for Social Sciences (SPSS) software version 20 computer program. Between-group comparison was explored by independent t-test, while the associations between different continuous variables were tested by Pearson correlation coefficient. Multiple linear regression models were used to predict the posttraumatic growth outcomes – New Possibilities (NP), Relating to Others (RO), Personal Strength (PS), Appreciation of Life (AL), Spiritual Change (SC). Trauma scores were entered as the

independent variable, and either resilience or post traumatic growth scores entered as the dependent variables.

## 5. Results

### *Socio-demographic results of the study sample*

Table 1 demonstrate that 180 (47.2%) of the university students of the study sample were males, and 201 (52.8%) were females, and the results show that the mean of age of the study sample is (20.6 years) and standard deviation SD is (2.57) years. The

following table, the total numbers of sample selected for the current study was 381 university students. They were 138 students from the first level (36.2%), 105 from second level (27.6%), 53 from the third level (13.9%), and 85 from fourth level (23.3%). Regarding university, 128 of the university students of the study sample were from Islamic University (33.6%), 89 were from Al-Azhar University (23.4%), 81 from Al-Quds open University (21.3%), and 83 from Al-Aqsa University (28.8%).

**Table 1: Socio-demographic results of the study sample (N=381)**

Variable	No.	%
<b>Sex</b>		
Male	180	47.2
Female	201	52.8
<b>Level education</b>		
First level	138	36.2
Second Level	105	27.6
Third Level	53	13.9
Four level	85	22.3
<b>University</b>		
Islamic university	128	33.6
Al Azhar university	89	23.4
Al-Quds open University	81	21.3
Al Aqsa university	83	21.8
<b>Place of residence</b>		
North Gaza	84	22
Gaza	190	49.9
Middle area	75	19.7
Khan Younis	23	6
Rafah area	9	2.4
<b>Family monthly income</b>		
Less than \$ 250	154	40.4
\$ 251-500	105	27.6
\$ 501-750	64	16.8
\$751 and more	38	10

### *Exposure to trauma*

The highest frequencies of reported traumatic events were watching mutilated bodies in TV (94.5%), hearing shelling of the area by artillery (92.4%), hearing the loud voice of drones (87.4%), and inhalation of bad smells due to bombardment (78.7%). While, the least common traumatic experiences were: Hearing killing of a friend (11%), and being arrested during the land incursion witnessing (18.9%). The mean total traumatic events were 10 (SD =4.7).

### *Severity of traumatic events due to 51 days war on Gaza*

In order to find the severity of the traumatic experiences, total traumatic events were recorded in to mild trauma (0-5 events), moderate trauma (6-10 events) and severe trauma (11 events

and more). The results showed that 6% reported mild, 36% reported moderate, and 58% reported severe traumatic events.

### *Differences in traumatic events according to socio-demographic variables*

Independent t-test showed statistically significant gender differences, with male students experienced significantly more traumatic events than females ( $t = 4.56, p = 0.001$ ).

One-way ANOVA was conducted in which total traumatic events was entered as dependent variable and other socio-demographic variables as independent variables. No statistically significant differences in traumatic events according to place of residence ( $F = 1.15, p = 0.33$ ) and family monthly income ( $F = 84, p = 0.49$ ).

**Post traumatic growth**

The most common items reported by universities students were : I believe more strongly in God (87.9%), I understand spiritual matters better (81.6%), I try to have the best relationships to others(73.5%), I have more self-confidence (67.7%), and I discovered that I am stronger than I thought I was(67.2%).

**Mean and Standard deviations of the Post Traumatic Growth domains**

The following table (4) described that the main results of the PTG domains was as follows: mean PTG was 67.34 (SD = 13.42), appreciation for life was 7.17 (SD = 2.49), new possibilities was 12.25 (SD = 3.74), the personal strength was 10.62 (SD = 3.14), relating to others mean was 18.15 (SD = 5.11), and spiritual change was 6.82 (SD = 1.53).

**Table 2: Means and percent of domains of Post Traumatic Growth**

	Mean	Std. Deviation
Total PTG	67.34	13.42
Appreciation for life	7.17	2.49
New possibilities	12.25	3.74
Personal strength	10.62	3.14
Relating to others	18.15	5.11
Spiritual change	6.82	1.53

**Differences in post-traumatic growth according to sex of students**

There were gender differences on post traumatic growth. Males had significantly more post traumatic growth than females (Mean = 69.19 vs. 65.68) (t = 2.57, = 0.01) and females had significantly more spiritual changes than males (Mean =6.46 vs. 7.1) (t = -4.50, p = 0.001). No significant differences in PTG and family monthly income.

The most common resilience items were: Things happen for a reason (92.4%), sometimes fate or God can help (0.5%), tend to bounce back after illness or hardship (72.2%), and past success gives confidence for new challenge (72.1%).

**Means and Standard deviation of resilience**

For resilience, mean resilience was 55 (SD = 12.51), personal competence was 22.32(SD = 5.24), Positive acceptance was 13.49 (SD = 3.38), trust in one's instincts was 16.30 (SD = 4.89), control was 7.96 (SD = 2.23), and spiritual influences was 7.31 (SD = 1.33).

**Resilience in universities students**

**Table 3: Means and percent of domains of resilience**

	Mean	Std. Deviation
Total resilience	55.22	12.51
Personal competence	22.32	5.24
Positive acceptance	13.49	3.38
Trust in one's instincts	16.3	4.89
Control	7.96	2.23
Spiritual influences	7.31	1.33

**Differences in resilience according to socio-demographic variables**

There were gender differences on resilience subscale. Males had significantly more positive acceptance than females (Mean = 13.9 vs. 13) (t = 2.46, = 0.01), trust in others (Mean = 17.22 vs. 15.46) (t = 3.65, = 0.001, control (Mean = 8.21 vs. 7.7) (t = 2.08, = 0.03), spiritual influences, and females had significantly more spiritual changes than males (Mean = 7 vs. 7.5) (t = 3.06, = 0.002).

**Relationships between trauma, PTG, and resilience**

A Pearson correlation test between trauma, resilience and post traumatic growth, as well as its subscales was conducted (Table 1). There were no associations between total traumatic events and total post traumatic growth (r = 0.04, p = 0.37) and total resilience (r = 0.02, p = 0.62). Total resilience was positively correlated with total post traumatic growth (r = 0.39, p = 0.001),

**Table 4: Pearson correlation test between trauma, resilience and post traumatic growth**

		Trauma	PTG	Resilience
Trauma	Pearson Correlation	1	.04	.02
	Sig. (2-tailed)		.37	.62
	N	381	381	381
PTG	Pearson Correlation	.04	1	.38 **
	Sig. (2-tailed)	.370		.001
	N	381	381	381
Resilience	Pearson Correlation	.02	.39**	1
	Sig. (2-tailed)	.62	.001	
	N	381	381	381

**Prediction of PTG by traumatic events**

In a multivariate regression model, each traumatic event was entered as an independent variable, with total PTG scores as the dependent variable. Two traumatic events were significantly negatively associated with total post traumatic growth:

deprivation from water or electricity during detention at home: ( $\beta = 0.16, p=0.002$ ); and hearing killing of a friend was positively associated with post traumatic growth ( $\beta = 0.15, p=0.01$ ).

**Table 5: Multivariate regression model of each traumatic event with total PTG**

Post traumatic Growth	Unstandardized Coefficients		Standardized Coefficients	t	p	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
	Deprivation from water or electricity during detention at home	-4.25	1.39			-0.16	-3.06
Hearing killing of a friend	6.12	2.28	0.14	2.69	0.01	1.65	10.60

**Prediction of resilience by traumatic events**

In a multivariate regression model, each traumatic event was entered as an independent variable, with total resilience as the dependent variable. Four traumatic events were significantly associated with total resilience: watching mutilated bodies in

TV ( $\beta=0.32, p=0.001$ ), hearing killing of a friend ( $\beta = 0.27, p=0.001$ ), hearing shelling of the area by artillery ( $\beta = 0.36, p=0.001$ ), and hearing killing of a close relative ( $\beta = 0.16, p=0.002$ );

**Table 6: Multivariate regression model of each traumatic event with total resilience**

	Unstandardized Coefficients		Standardized Coefficients	t	p	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
	Watching mutilated bodies in TV	18.31	2.84			0.32	6.44
Hearing killing of a friend	15.98	2.41	0.27	6.64	0.001	11.24	20.71
Hearing shelling of the area by artillery	20.99	2.80	0.36	7.50	0.001	15.49	26.49
Hearing killing of a close relative	5.50	1.68	0.07	3.27	0.001	2.19	8.81

**6. Discussion**

The study aimed to establish the association between war traumatic experiences, post traumatic growth and resilience among universities students in the Gaza Strip, 9 months after 51 days war on Gaza, and during a period of ongoing trauma exposure. The study showed that universities students still reported 10 traumatic events after nine months of ending the war. Such high reported traumatic events findings were consistent with previous studies in the area (Thabet et al, 2008, 2009, 2015). Moreover, male students experienced significantly more traumatic events than females. Such sex differences toward males were consistent with results of similar studies in Gaza Strip (Thabet et al, 2013, 2014). Our finding that males reported more traumatic events than girls could be due to the cultural factors in which males are more active in daily life and political activities and females are kept at home caring for other family members.

The study showed that mean posttraumatic growth reported by students was 67.34, mean appreciation of life was 7.17, new possibilities was 12.25, the personal strength was 10.62, relating to others mean was 18.15, and spiritual change was 6.82. Males had significantly more total post traumatic growth than females and females had significantly more spiritual changes than males. The results showed that trauma did not lead to positive impact on students. However, religious factors were the main positive roles used by students to overcome the trauma such as faith in religious beliefs and believe that God play a central role in guidance of people. This has important implications for traumatized Palestinian students who lack other personal and social resources due to closure and siege of Gaza Strip in the last 8 years. Our study findings were consistent with studies such as study of Kroo and Nagi (2011) of posttraumatic growth among traumatized Somali Refugees in Hungary, which showed that mean total PTG was 68.92 (58.6 for females and 71 for males). These findings demonstrate similarly to other PTG studies conducted with non-Western samples (Ai et al., 2007; Ho et al., 2004; Kilic, 2005; Powell et al., 2003; Salo et al., 2005; Schroevers & Teo, 2008; Taku et al., 2007)—that thriving following traumatic events is not only a “Western” phenomenon, but highly relevant among a variety of cultures, which implies that posttraumatic growth may be a universal concept.

For resilience, mean resilience was 55.22, personal competence was 22.32, positive acceptance was 13.49, trust in one's instincts was 16.30, control was 7.96, and spiritual influences were 7.31. Males had significantly more positive acceptance, trust in others, control than females and females had significantly more spiritual changes than males. Such findings were consistent with previous study of impact of stress due to siege and closure and war trauma on Palestinians in the Gaza Strip which showed that people commonly used religion for coping with stressors and wars trauma (Thabet and Thabet, 2014). This study showed that religious beliefs were a strong source of resilience. This is consistent with various previous studies, Abbadza and Thabet (2013) in study of Palestinians victims of community violence in Gaza Strip found that mean resilience was 60.84, Males had more resilience than females.

Males were more committed, more able to control, and challenging than females. Furthermore, Scholte et al (2004) studied mental health symptoms following war and repression in Eastern Afghanistan, found that respondents valued “Allah” (the Islamic god) as their main resource for emotional support when feeling sad, worried, or tense. Their second preferred resource was family support.

Our study showed that total resilience was positively correlated with total post traumatic growth Researchers reported that approaches to resilience and PTG are often confused in the literature (Levine et al., 2009; Tedeschi et al., 2007), and there is a debate as to whether or not PTG is a form of resilience. Several researchers have argued that growth is superior to resilience (Lepore & Revenson, 2006; Tedeschi et al., 2007; Westphal & Bonanno, 2007). Whereas others (Levine et al., 2009) have argued that resilience can be conceptualized and measured by a lack of posttraumatic stress disorder following adversity and is inversely associated with PTG.

## 7. Conclusions and implications

This study showed that universities students still experienced high levels of distress few months following war on Gaza, although they remained reported trauma. Trauma was not related to resilience and post traumatic growth. Findings of the present study add to the small but growing extant knowledge about influence of trauma due to war on resilience and post traumatic growth of universities students 9 months after war. The study showed that, beside wars trauma, level of daily stressors due to closure and political uncertainty in the Gaza Strip for their family, friends and university were not given students the time for positive changes and more resilience. These results indicate that mental health professionals should pay special attention to the treatment of severely traumatized students and allow more time for the development of positive self-changes. In the initial phase, the restoration of safety, trust, and hope should be the central focus of rehabilitation of such target. A focus of intervention and policy must be understanding and addressing this situation, in order to support these students in their efforts to fulfil their familial roles. This finding highlights the need for establishing special community centers at the universities to help students to overcome the impact of trauma. New programs for psychosocial support and second level intervention for students, and these should continue beyond the end of hostilities. More training courses in the impact of trauma and ways of coping must be conducted for students in the universities.

Further cross-cultural and longitudinal studies are needed to support this notion, with preliminary evidence already available.

## 8. Declaration of interest:

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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