

**Deanship of Graduate Studies  
Al-Quds University**



**Relationship between Trauma, Posttraumatic Stress  
Disorder, Resilience, and Posttraumatic Growth among  
Adolescents in Gaza Strip**

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**MMH Thesis**

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**Relationship between Trauma, Posttraumatic Stress  
Disorder, Resilience, and Posttraumatic Growth among  
Adolescents in Gaza Strip**

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**Relationship between Trauma, Posttraumatic Stress Disorder, Resilience,  
and Posttraumatic Growth among Adolescents in Gaza Strip**

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## **Dedication**

To my family ... my father ... my mother ... my brothers and sisters ... I appreciate all the encouragement and support you gave me during my study.

Special thanks to my wife and my sons who supported me all the way to have this work being accomplished.

Murad Dawas

## **Acknowledgement**

First of all, praise and gratitude be given to Allah the almighty for giving me such a great strength, patience, courage and ability to complete this research, and peace and blessings of Allah be upon the noblest of all Prophets and messengers, our prophet Muhammad, all thanks for Allah who granted me the power and capability to complete this thesis.

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I would like to convey my warm thanks all the students who participated in this study for being patience during questionnaires filling.

Many thanks to my colleagues at Al Shifa Hospital.

Murad Dawas

June 2017

**Declaration**

I certify that this thesis submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

**Signature:**

Murad

## **Abstract**

*The aim of this study is to determine the relationship between traumatic experience, posttraumatic stress disorder, resilience, and posttraumatic growth among adolescents in Gaza Strip. The sample of the study consisted of 400 secondary school students (200 males and 200 females) from the seven directorates of education in the Strip, namely North Gaza, East Gaza, West Gaza, Middle zone, East Khanyounis, West Khanyounis, and Rafah. Their age ranged between 15 – 18 years with mean age 16.67 years. Descriptive, analytic cross-sectional design was used. For data collection four instruments were used: Gaza traumatic events checklist, PTSD checklist for DSM-IV-TR, Resilience scale for adolescents, and Posttraumatic growth inventory. The study instruments were tested for validity and reliability using Cronbach alpha coefficient and it was 0.888 for Traumatic events checklist, 0.828 for Posttraumatic stress disorder checklist, 0.861 for Resilience scale, 0.888 for Posttraumatic growth inventory. For data analysis, the researcher used SPSS, and statistical analysis included frequencies, percentage, means, t test, one way ANOVA, Fisher's Least Significant Difference test, and Pearson correlation test. The results showed that the most common traumatic events were hearing the voices of the bombing on different areas of the GS (92.3%), listening to the sound of drones constantly (86.3%), and hearing the death of a friend or neighbor during the war (79.5%), and 13% of adolescents had mild trauma, 39.8% had moderate trauma, and 47.3% had severe trauma. There were statistically no significant differences at in experience of trauma related to gender, age, place of residency, family size, family income, fathers' job, and fathers' education.*

*Also, the results showed that the mean total score of PTSD was 38.6, mean intrusion was 12.97, mean avoidance was 14.39, and mean arousal was 11.24. Furthermore, 27.5% of adolescents did not show symptoms of PTSD, 38% showed at least one criteria of PTSD (B or C or D), 24% showed partial PTSD, and 10.5% showed full criteria of PTSD. There were no significant differences in total PTSD and avoidance symptoms related to gender, but girls had higher intrusion and arousal symptoms. Also there were no significant differences in PTSD related to age, place of residency, but arousal symptoms were higher among participants from North Gaza. There were no significant differences in PTSD related to family size, family income, fathers' job and level of education.*

*The results also showed that adolescents had above moderate level of resilience with mean score 80.48, and there were no significant differences in resilience levels related to gender, age, family size, family income, fathers' job and level of education, but adolescents from Khanyounis and Rafah had higher resilience compared to their counterparts from other places.*

*The results showed that the mean of total post traumatic growth was 46.05, appreciation of life 6.54 , spiritual change 5.25 , personal strength 8.04 , relating to others 15.30 , new possibilities 10.86 , and there were no significant differences in posttraumatic growth related to gender, place of residency, family size, family income, fathers' job, and level of education, but adolescents aged 15 – 16 years old had higher level of posttraumatic growth.*

*The results also reflected that there was statistically significant relationship at  $\alpha \leq 0.05$  between traumatic events and PTSD ( $r= 0.27$  ), resilience ( $r= 0.16$  ), and PTG ( $r= 0.187$ ). but the relationship between posttraumatic stress disorder and posttraumatic growth was not significant.*

*The study concluded that Palestinian adolescents are exposed to traumatic events and subsequent posttraumatic stress disorder as a result of the long term and ongoing wars beside the siege against Gaza Strip, and the results of the study raised the need for strategic mental health programs to enhance coping mechanisms and decrease the negative impact of trauma.*

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## **List of Abbreviations**

<b>APA</b>	American Psychiatric Association
<b>CMHP</b>	UNRWA Community Mental Health Program
<b>DSM</b>	Diagnostic and Statistical Manual of Mental Disorders
<b>GS</b>	Gaza Strip
<b>GDP</b>	Gross Domestic Product
<b>MOH</b>	Ministry of Health
<b>NGOs</b>	Non-Governmental Organizations
<b>PCBS</b>	Palestinian Central Bureau of Statistics
<b>GCMHP</b>	Gaza Community Mental Health Program
<b>PNA</b>	Palestinian National Authority
<b>PTG</b>	Posttraumatic Growth
<b>PTGI</b>	Posttraumatic Growth Inventory
<b>PTSD</b>	Post Traumatic Stress Disorders
<b>SAMHSA</b>	Substance Abuse and Mental Health Services Administration
<b>UNRWA</b>	United Nations Relief and Works Agency for Palestine Refugees in the Near East
<b>WB</b>	West Bank
<b>WHO</b>	World Health Organization
<b>WMH</b>	The World Mental Health

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## **Chapter One**

### **1.1 Introduction**

Exposure to trauma, is an overwhelming experience for those who witnessed or affected by trauma and can have severe and chronic psychological consequences. Trauma is a psychologically distressing event outside the range of usual human experience, often involves a sense of fear, terror and helplessness (Perry, 2006). The American Psychiatric Association – APA, (2000) defined traumatic event as "an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of self or others".

Psychological reactions to physical threat and environmental instability include fear, anger, helplessness, isolation, irritability, nervousness, and confusion (Webster and Harris, 2009). In addition, children and adolescents exposed to high levels of conflict and violence may be especially likely to develop diagnosable mental health problems such as posttraumatic stress disorder (PTSD), depression and anxiety. This was evidenced by a study examined the impact of exposure to war trauma in Gaza Strip (GS) reported high rates of PTSD and anxiety scores above previously established cut-offs (Thabet, et al., 2008). On the other hand, along with the inherent negative responses to trauma, individuals may perceive a number of positive changes which reveal Posttraumatic Growth (PTG). Recently, in the positive psychology, there is a growing body of literature suggesting the existence of perceived positive outcomes in the aftermath of a traumatic event. PTG is the most used construct to describe the positive changes experienced as a result of the psychological and cognitive efforts made by individuals in order to deal with challenging circumstances (Calhoun and Tedeschi, 2001). PTG is the individual's struggle with the new reality in the

aftermath of trauma that is crucial in determining the extent to which posttraumatic growth occur (Calhoun and Tedeschi, 2004).

Resilience represents a dynamic process that encompasses an efficient adaptation in aversive circumstances (Bonanno, 2004). As a transformative process, resilience is characterized by three distinct but interconnected dimensions: recovery, resistance, and reconfiguration (Calhoun and Tedeschi, 2006).

PTG is considered as an outcome of the reconfiguration process, however, PTG is distinguished from resilience, as it is related to only the positive changes, and not to both positive and negative outcomes (Lepore and Revenson, 2006). This distinction has been the object of some controversy. Calhoun and Tedeschi, (2004) emphasized that the level of adversity experienced by traumatic survivors who develop PTG is higher than that of resilient individuals. Nevertheless, the relation between resilience, PTG, and PTSD remains contradictory, with some inconclusive results. Resilience was found to be negatively associated with PTSD and growth (Levine et al., 2009). In contrary, Bensimon (2012) suggested that resilience is related positively with growth but negatively with PTSD, while Linley and Joseph, (2004) reported that PTG does not occur in everyone who experienced stressful circumstances, and some individuals may not experience positive changes as a result of the trauma.

In GS with frequent wars (2008 – 2009, 2012, 2014) by the Israeli military forces, and internal political conflict and violence in the recent years, many people were victims of the war and violence, and consequently could be experiencing psychological disturbances. In this study the researcher is going to examine the relationship between trauma, PTSD, resilience, and PTG among adolescents in GS to highlight the impact of these traumatic events on psychological status of adolescents.

## **1.2 Research problem**

Exposure to traumatic events could be a terrifying experience that may result in consequent psychological and emotional disturbances. These disturbances may have negative impacts on trauma victims and may lead to dysfunction and disability and loss of productivity. The World Health Organization (WHO, 2001) estimated that, in the situations of armed conflicts throughout the world, 10% of the people who experience traumatic events will have serious mental health problems and another 10% will develop behaviors that will hinder their ability to function effectively. A study carried out by Gaza Community Mental Health Program (GCMHP) found that among children living in bombardment areas, 54% suffered from severe PTSD, and 33.5% suffered from moderate PTSD (Qouta, 2003). Individuals who live in armed conflict zones usually experience psychological problems after war, which may in turn affect their adaptation and productivity. Identifying those individuals and the way they behave to manage their psychological problems towards decreasing the negative impacts of traumatic events and improve their wellbeing and growth is an important issue.

At the end of December 2008 and beginning of January 2009, GS have been exposed to war by Israeli forces, in which more than 1400 Palestinians, including 446 children, were killed. Furthermore, about 4000 houses were totally demolished and 16000 houses were partially damaged (Palestinian Red Crescent, 2008). Another war on 14 November 2012, which lasted for 8 days, in which 158 Palestinians were killed, 102 of them were civilians, including 27 children, and the last war in July - August 2014, which was the most destructive war and lasted for 51 days, ended with the killing of 2,145 Palestinians, about 11,000 had been wounded, more than 500,000 Palestinians internally displaced from their homes, and about 18,000 houses were destroyed or severely damaged (Office for the Coordination of Humanitarian Affairs - OCHA (2014)). All these wars, besides the siege



left hard physical and emotional traumatic experiences on the people of GS, which will affect their mental well-being.

In this study the researcher is trying to determine the prevalence of traumatic experiences, PTSD, and the possibilities for positive changes including resilience and posttraumatic growth among secondary school students in GS.

### **1.3 Justification of the study**

Exposure to trauma and stressful life-events carry a risk for developing PTSD and its negative impact on individuals. In the last 6 years, GS suffered from three wars (2008, 2012, 2014) with severe shelling, bombardment, and destruction of thousands of homes and infrastructure. The wars left thousands of martyrs, injured, and disabled. Adding to that, thousands of people escaped from their homes and lost their shelter. Adding to that, the strict siege imposed against GS with resultant loss of work opportunities and increase unemployment rates and poverty. Exposure to trauma and witnessing injuries and death of relatives, or friends during the war would have negative impact on the emotional and psychological wellbeing of individuals, and these negative impacts may affect the general mental health of the whole society and rise the incidence of mental disturbances.

As a result of struggling with the adverse effects of trauma, the individual may adopt changes in his life and living conditions. Some studies suggested a negative relation between distress and PTG, which means that if the survivor develops a higher level of PTG to overcome the cognitive and emotional disruptions to decrease the level of distress (Cadell et al., 2003; Tomich and Helgeson, 2004).

The adolescent stage is a sensitive stage in individual's life as it is considered a transition stage from childhood to adulthood, and many traumatic events in this stage of life could affect the personality development, the way of thinking and functioning. So, carrying out

this study will highlight the extent to which these adolescents exposed to traumatic events, and to examine their reaction to these events. Their reaction could be in the negative aspect and lead to PTSD and more suffering and deterioration, or could be in the positive side with resilience and posttraumatic growth, which leads to overcoming these traumatic experiences and continue their life for the hope for better future. The significance of this study that it focuses on the psychological impact of traumatic experiences after the war, and to assess aftermath symptoms of PTSD, and how resilience will lead to posttraumatic growth among adolescents in the GS.

#### **1.4 General objective**

The general objective of the study is to identify the relationship between traumatic experience, PTSD, resilience, and PTG among adolescents in Gaza Strip.

#### **1.5 Specific objectives**

- To identify type and severity of trauma among adolescents in the Gaza Strip.
- To determine the prevalence of PTSD among adolescents in the Gaza Strip.
- To examine the level of resilience among adolescents in the Gaza Strip.
- To identify the level of PTG among adolescents in the Gaza Strip.
- To determine the differences in levels of traumatic events, PTSD, resilience, and PTG in relation to selected variables (gender, age, place of residency, family size, family income fathers' job, and fathers' level of education).

#### **1.6 Questions of the study**

- Is there a relationship between trauma, PTSD, resilience, and PTG among adolescents in the Gaza Strip?
- What is the prevalence of PTSD among adolescents in the Gaza Strip?

- What is the level of resilience among adolescents in the Gaza Strip?
- What is the level of PTG among adolescents in the Gaza Strip?
- Are there statistically significant differences in levels of traumatic events, PTSD, resilience, and PTG in relation to selected variables (gender, age, place of residency, family size, family income fathers' job, and fathers' level of education)?

## **1.7 Context of the study**

### **1.7.1 Demographic and political context**

Palestine is a small country with an area of 27,000 Km<sup>2</sup>, expanding from Ras Al-Nakoura in the north to Rafah in the south. Due to Israeli occupation, Palestinian territory is divided into three areas separated geographically; the West Bank (WB) 5.655 Km<sup>2</sup>, GS 365 Km<sup>2</sup> and East Jerusalem. According to the Palestinian Central Bureau of Statistics (PCBS) report on July 2015, the total population in GS 1.82 million (925,000 males and 859,000 females), and that adolescents aged between (10 – 19 years) accounted about one fourth of the population in GS (219.5 thousand males and 210.5 thousand females) (PCBS, 2014), and according to MOH reports (2016) the population of GS reached 2 million in October 2016.

GS continues to suffer from unstable political and security circumstances long years ago. The situation became harder after the political detachment and armed violence acts between the main two political factions; Fateh and Hamas on July 2006. Since that time, GS was under strict siege by the Israelis with closure of the border outlets except for humanitarian and emergency aids. GS was exposed to three hard wars namely Alforqan on December 2008 – January 2009 (1400 Palestinians were killed, including 446 children, and about 4000 houses were destroyed), The second war namely Hejara al sejeel on December 2012 (158 Palestinians were killed, of them 27 were children), and the third war namely

Alasf Almakool on June – August 2014 (2,145 Palestinians were killed, about 11,000 injured, more than 500,000 escaped from their homes to safe areas, and about 18,000 houses were destroyed). These wars resulted in thousands of martyrs, injured and mass destruction of homes and shelters. The United Nations stated that according to reports by the consultancy company Near East Consulting on January 2009, about 96 percent of Gaza residents feel depressed and disheartened, another report on the aftermath of the Israeli military Cast Lead Operation (December 2008 – January 2009) highlights that over 75% of the Gaza population, feel insecure and that although most households have suffered from limited access to basics such as food, water, sanitation, and money, their highest need is personal security (UN Office for the Coordination of Humanitarian Affairs - OCHA, 2009). The situation in GS worsened with higher rates of psychological disturbances after the other two wars in 2012 and 2014.

### **1.7.2 Economic context**

The Palestinian economy is fragile, weak and facing increased pressure to create decent and productive jobs, reduce poverty and provide economic security for all social groups in a rapidly growing and urbanizing population. The poverty rate is higher in GS than in WB, in 2011, 18% and 39% of individuals in WB and GS, respectively, were below the national poverty line (PCBS, 2012). Economic status in the Palestinian territories is very low. Gross Domestic Product (GDP) is estimated about 9.3%, and the workforce participation 43.6, unemployment rate is very high in GS and reached 41.6, and the poverty rate increased to serious levels as it reached 38.8 in GS (PCBS, 2015).

### **1.7.3 Health care system**

Health care services in Palestine are provided by five sectors including the Ministry of Health (MOH), United Nations Relief and Works Agency for the Refugees of Palestine (UNRWA), Medical Military Services for Police and General Security, Non-Governmental Organizations (NGOs) and private sector (non-and for-profit hospitals). MOH is the main health care provider; it provides primary, secondary, and tertiary services and purchases some services from private providers domestically and abroad (MOH, 2006). MOH plays the main role in providing health services to the Palestinians. The total number of employees who are working in MOH is 14,619 employee, of them 42.6% in WB and 57.4% in GS (MOH, 2012).

In addition, Mental health services are provided by four sectors, the MOH, UNRWA, NGOs and private sector. The community mental health department in MOH provides preventive, curative and community-based rehabilitation programs. Mental health services are provided for the Palestinian population by 15 community mental health clinics (5 in Gaza Strip, one specialized in child mental health, and 10 clinics in West Bank). Also, GCMHP was established in 1990 and offer comprehensive mental health services (therapeutic, counseling, and training) to the people in GS (GCMHP, 2015). The UNRWA Community Mental Health Program (CMHP) was established in 2002 to assist Palestine refugees in GS who had lost their ability to cope with the deteriorating conditions characterized by high levels of violence and economic decline. With a particular focus on children and youth, CMHP helps to mitigate the psychological impact resulting from the prevailing violence, economic hardship and isolation of the Gaza refugee population (UNRWA, 2015).

## **1.8 Definition of terms**

### **Adolescence**

WHO identifies adolescence as "the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19". It represents one of the critical transitions in the life span and is characterized by a tremendous pace in growth and change that is second only to that of infancy (WHO, 2015).

### **Traumatic event**

A traumatic event is defined as "an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of self or others" (APA 2000).

### **Psychological trauma**

Psychological trauma is a distressing event outside the range of usual human experience. It often involves a sense of fear, terror and helplessness. Trauma is an experience that induces an abnormally intense and prolonged stress response (Perry, 2006).

### **Mental Health**

A state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community (WHO, 2005).

### **Posttraumatic stress disorder (PTSD)**

PTSD is the psychiatric disorder that can result from the experience or witnessing of traumatic or life-threatening events such as terrorist attack, violent crime and abuse, military combat, natural disasters, serious accidents or violent personal assaults (Vojdani and Thrasher, 2004).

## **Resilience**

Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress (APA, 2014).

## **Posttraumatic growth (PTG)**

PTG is positive psychological change experienced as a result of the struggle with highly challenging circumstances (Tedeschi & Calhoun, 2004).

### **1.9 Lay out of the study**

This study consists of four chapters. Chapter one includes the introduction, problem statement, justification, purpose, questions of the study, definition of terms and context of the study. Chapter two includes conceptual framework and indepth review of related literature and previous studies. Chapter three includes study design, population, sample and sampling method, instruments for data collection, statistical procedures used, inclusion-exclusion criteria, ethical consideration and limitations of the study. Chapter four includes description of study sample, results of the study and discussion, recommendations and references.

## Chapter Two

### Conceptual framework and literature review

#### 2.1 Conceptual framework

The conceptual framework was designed by the researcher based on the review of the available literature.

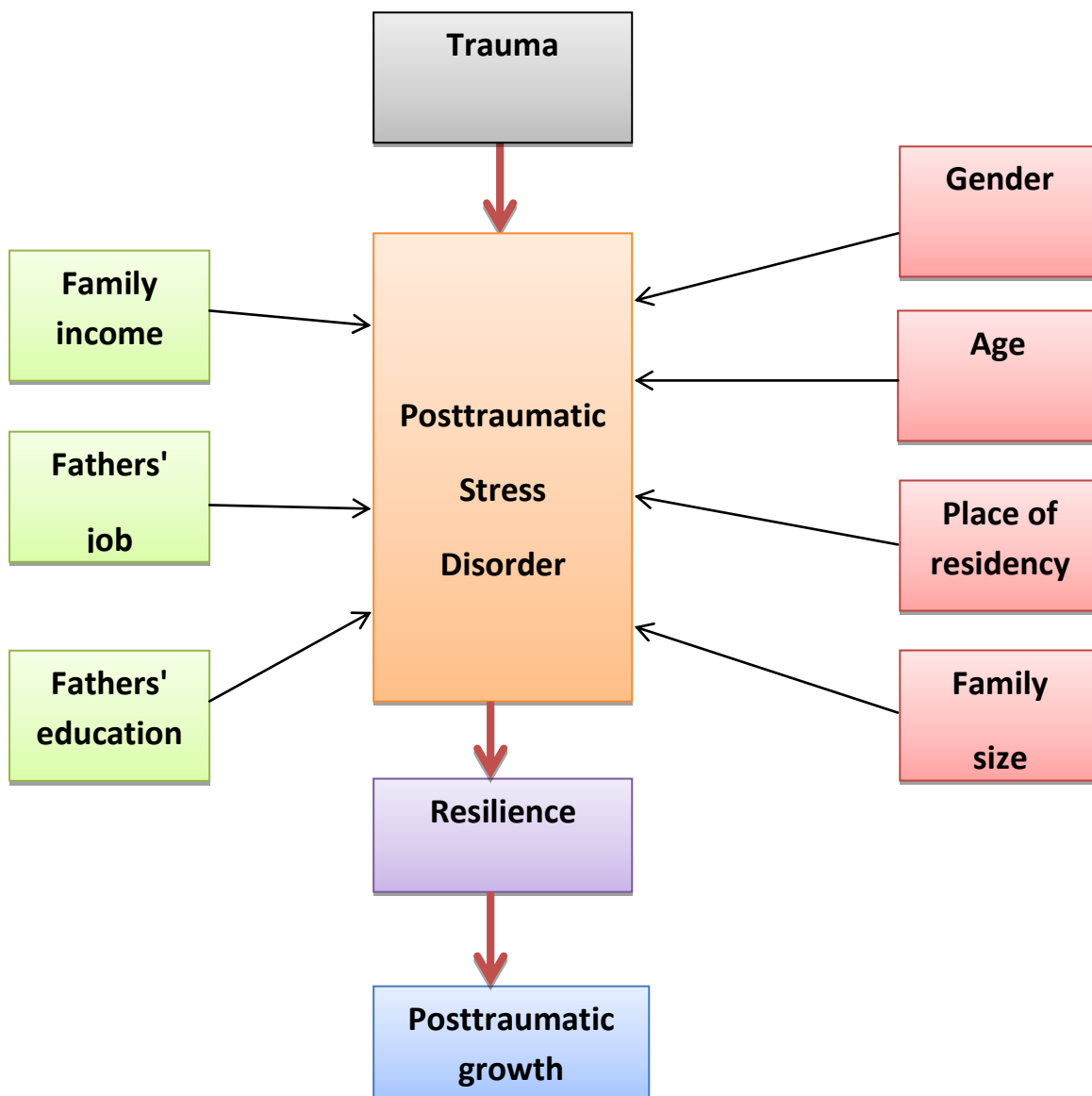


Figure (2.1): Diagram of conceptual frame work



The conceptual framework clarify the relationship between the independent variable "trauma" and the dependent variables "PTSD, resilience, and posttraumatic growth" as outcomes to exposure to traumatic events.

The diagram presented four major elements:

- 1) Trauma, in which the individual responses to a terrible event and experience, witness, threatened death or serious injury, or a threat to the physical integrity of self or others.
- 2) PTSD, which is characterized by development of symptoms following exposure to trauma, as hyperarousal, avoidance, and re-experiencing the trauma.
- 3) Resilience, which reflects the individual's ability to maintain stable mental function throughout the course of events.
- 4) Posttraumatic growth, which conveys positive psychological change experienced as a result of the struggle with highly challenging situations.

Recovery from the negative effects of trauma is determined by the severity and frequency of traumatic experiences.

In addition, some personal and sociodemographic factors play major roles in recovery from trauma.

Age and sex are important factors and researchers usually consider them in their studies. It is assumed that there are differences between males and females in their reaction to traumatic experience. For example children may perceive trauma as overwhelming but older ones may find coping mechanisms to adapt to the trauma

The place of residency included in the study despite the fact that Gaza is a small piece of land and many people may find it not important. However some studies conducted in Gaza

which found differences among people according to their place of residence, so the researcher considered this factor and included it in the study.

Furthermore, high unemployment and poverty rates, with low income in the GS are important factors and would inflict its effects on response and resilience level among adolescents. It is assumed that individuals from high income families will have different response from those with low income level. The diagram denoted that response to trauma also could be affected by family size, fathers' job and level of education. These variables could make variations in perception and consequences of trauma.

In addition, consequences of trauma could be negative effects and lead to psychological disturbances including PTSD, while other individuals may pass to the positive side, with resilience and growth after the trauma if they received psychological and social support.

## **2.2 Literature review**

### **2.2.1 Background**

On 1993, with the signing of the Oslo peace accord between the Palestinian Liberation Organization and the Israeli occupying government many people thought that this event will rise a ray of hope for the future life. Moreover, on 2005 after the withdrawal of Israeli forces from GS, the Gazans believed that a new life with peace, freedom and societal growth will take place in GS. These thoughts and believes did not last long with the violent political fights between the main two factions (Fateh and Hamas) which ended by controlling GS by Hamas party on June 2007. The awful events did not stop here, but GS had been under severe bombards and shelling on three wars (2008, 2012, 2014) which left huge number of martyrs and injured people with vast destruction of infrastructure and all life aspects.

Exposure to a traumatic incident may predispose the individual to develop psychological disturbances that may interrupt his wellbeing and ability to function normally. Common feelings and reactions in the aftermath of a traumatic event include sadness, anger, rage, fear, numbness, feeling of helplessness, experiencing nightmares, difficulty sleeping, change in appetite, avoidance of situations that are reminders of the trauma, problems in concentration, and guilt because of survival or lack of harm during the event (APA, 2000). Highly stressful events might have a negative impact on individual adjustment to circumstances surrounding the event, such as psychological distress, depression, anxiety, and even symptoms of PTSD (Bostock et al., 2009; Linley et al., 2008; Calhoun and Tedeschi, 2001).

The siege imposed against GS by Israelis since 2007 is a major traumatic event that affected all the life aspects. In this regard, a study aimed to examine the stressors caused by siege against GS included 386 Palestinian adults showed that people commonly reported the following stressors: prices were sharply increased (97.67%), they feel they in a big prison (92.23%), they cannot find things they need in the market (91.70%), they quitted some purchased daily needs (88.30%), and social visits were less than before (85.23%). For quality of life, the results showed that only 11.8% of Palestinians were satisfied with their general health and only 8% said that they enjoy their life. In addition, there were negative correlation between total siege scores and quality of life (Thabet et al., 2008). Another study included 399 university students from main four universities in GS showed that the most frequent stressors due to siege were: (92%) prices that were sharply increased due to closure, (83.5%) their study in the university was affected so much due to cut-off of electricity and shortage of gas. The study results showed that mean stressors in males was 12.38 and was 10.33 in females (Thabet and Juma, 2015).

Recently, there is a growing body of literature suggesting the existence of perceived positive outcomes in the aftermath of traumatic event (Helgeson et al., 2006; Affleck and Tennen, 1996; Tedeschi and Calhoun, 1996).

### **2.2.2 Traumatic events**

In psychology, trauma is often the result of an overwhelming amount of stress that exceeds one's ability to cope, or integrate the emotions involved with that experience (Substance Abuse and Mental Health Services Administration - SAMHSA, 2014). A traumatic event involves one's experience, or repeating events of being overwhelmed that can be precipitated in weeks, years, or even decades as the person struggles to cope with the immediate circumstances, eventually leading to serious, long-term negative consequences. According to the Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> ed. (DSM-IV-TR) trauma is defined as direct personal experience of an event that involves actual or threatened death or serious injury, threat to one's physical integrity; or witnessing an event that involves the above experience or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member of close associate. Memories associated with trauma are implicit, pre-verbal and cannot be recalled, but can be triggered by stimuli from the in vivo environment. The person's response to aversive details of traumatic event involve intense fear, helplessness or horror. In children it is manifested as disorganized or agitative behaviors (APA, 2000).

According to DSM-IV, traumatic events are stressors of an extreme (i.e., life-threatening) nature (Criterion A1) that elicit intense fear, helplessness, or horror (Criterion A2), other feelings such as shame and guilt may also develop particularly as individuals engage in ruminative thought processes (APA, 1996).

Psychologically traumatic experiences often involve physical trauma that threatens one's survival and sense of security. Typical causes and dangers of psychological trauma include harassment, embarrassment, abandonment, abusive relationships, rejection, co-dependence, physical assault, sexual abuse, partner battery, employment discrimination, police brutality, and misconduct, bullying, paternalism, domestic violence, the threat or the witnessing of violence (particularly in childhood), life-threatening medical conditions, medication-induced trauma, in addition to catastrophic natural disasters such as earthquakes and volcanic eruptions, large scale transportation accidents, house or domestic fire, motor vehicle accident, mass interpersonal violence like war, terrorist attacks or other mass tortures, taken as hostages or kidnapped can also cause psychological trauma. Long-term exposure to situations such as extreme poverty or milder forms of abuse, such as verbal abuse exist independently of physical trauma but still generate psychological trauma (Whitfield, 2010).

The World Mental Health (WMH) surveys documented significant differences in the prevalence and distribution of traumatic events across the world. Variation in the rates of trauma exposure across the world, as well as the prevalence of specific traumatic events, appears to reflect historical, cultural, and political factors that vary across regions (Atwoli et al., 2015) The South African Stress and Health Survey, for example, reported a lifetime traumatic event prevalence rate of 73.8%, which was higher than in other surveys in Europe and Japan where the rate was in the range of 54–64%, at 54%, Spain has the lowest reported prevalence of trauma exposures, followed by Italy's 56.1%, and Japan's 60%, Northern Ireland's rate of 60.6% was the highest among surveys in Europe (Carmassi et al., 2014; Ferry et al., 2014; Kawakami et al., 2014; Olaya et al., 2015).

People who go through traumatic experiences often have symptoms and problems afterward. How serious the symptoms and problems are depends on many things including

a person's life experiences before the trauma, a person's own natural ability to cope with stress, how serious the trauma was, and what kind of help and support a person gets from family, friends, and professionals immediately following the trauma (Eve and Ruzek, 2004). Trauma survivors commonly re-experience their traumas. This means that the survivor experiences again the same mental, emotional, and physical experiences that occurred during or just after the trauma. These include thinking about the trauma, seeing images of the event, feeling agitated, and having physical sensations like those that occurred during the trauma. Trauma survivors find themselves feeling as if they are in danger, experiencing panic sensations, wanting to escape, getting angry, and thinking about attacking or harming someone else. Because they are anxious and physically agitated, they may have trouble sleeping and concentrating (Eve and Ruzek, 2004).

A study assessed the prevalence of exposure to traumatic events and associated symptoms among undergraduate students (N = 1,528) found that most students (85%) reported having experienced a traumatic event in their lifetime (first time ) and 21% reported experiencing an event over a 2-month period during college (second time). The most common event reported at both time points was the unexpected death of a loved one. Lifetime exposures to family violence, unwanted sexual attention, and sexual assault were associated with higher current distress levels. When nominated as a worst event, sexual assault was associated with the most posttraumatic stress disorder symptoms. Events that caused intense fear, helplessness, or horror and those that were intentionally caused were associated with higher distress levels. Total number of lifetime traumas consistently had the highest associations with distress levels (Frazier et al., 2009).

In a study included survivors of the Peruvian armed conflict, participants reported having suffered or witnessed an average of almost 9 violent events during the years of the conflict, 67% were severely injured or almost killed, 58% were tortured, while the most common

event experienced was the violent death of family members and neighbors (83%) (Suarez, 2013).

In a study of 184 households from GS, showed that the most common stressors items related to siege of Gaza were: prices are sharply increased (90.8%), I feel I am in a big prison (88.5%), I cannot find things I need in the market (91.70%), I was not able to get specific medicine for me or for one of the family member due to shortage of fuel and absence of transportation (73.4%), and I was not able to get specific medicine for me or for one of the family member due to shortage of physicians and nurses (62.58%) (Thabet et al., 2008). Earlier study carried out in GS among children aged 10 – 19 years old reported that the most prevalent types of trauma exposure are: 94.6% had witnessed funerals, 83.2% witnessed shooting, 66.9% saw injured or dead who were not relatives, and 61.6% saw family members injured or killed (Quota and El Sarraj, 2004). Another study included 1,137 children from GS found that 97% of youth had heard the sound of bombs and explosions and 84% had witnessed shelling from tanks, artillery, or military planes, and 73% of kids have also personally witnessed political violence (Altawil et al., 2008; Thabet, et al., 2014).

### **2.2.3 Posttraumatic stress disorder (PTSD)**

Traumatic events are profoundly stressful. The stress that results from traumatic events precipitates a spectrum of psycho-emotional and physiopathological outcomes. PTSD, is the psychiatric disorder that can result from the experience or witnessing of traumatic or life-threatening events such as terrorist attack, violent crime and abuse, military combat, natural disasters, serious accidents or violent personal assaults (Vojdani and Thrasher, 2004; McKeown-Eyssen et al., 2004).

There are different methods and scales to assess PTSD. These scales are designed as self-reports or clinician-administered instruments. PTSD scales include Davidson Trauma Scale 1997, Distressing Event Questionnaire of Kubany et al., 2000, Impact of Event Scale-Revised of Weiss and Marmar 2000, Trauma Symptom Checklist-40 of Briere 1996, PTSD Checklist-Civilian Version of Blanchard et al., 1996, Revised Civilian Mississippi Scale for PTSD of Norris and Perilla 1996, the Posttraumatic Stress Diagnostic Scale of Foa et al., 1997, Los Angeles Symptom Checklist 1995, and the Clinician-Administered PTSD Scale (CAPS) of Blake 1990 (Iribarren et al., 2005).

The PTSD was first described by ABR Myers (1838–1921) in 1870 as combining effort fatigue, dyspnea, a sighing respiration, palpitation, sweating, tremor, an aching sensation in the left pericardium, utter fatigue, an exaggeration of symptoms upon efforts and occasionally complete syncope, it was noted that the symptoms resembled more closely an abandonment to emotion and fear, rather than the effort that normal subjects engage to overcome challenges (Iribarren et al., 2005).

Individuals with PTSD usually report difficulty in sleeping, their behavior becomes increasingly detached and is frequently aggravated by related disorders such as depression, substance abuse and problems of memory and cognition, the disorder soon leads to impairment of the ability to function in social or family life, occupational instability, marital problems and divorces, and in severe cases may lead to suicidal tendencies (Iribarren et al., 2005).

### **2.2.3.1 Diagnosis of PTSD**

In 2013, the American Psychiatric Association revised the PTSD diagnostic criteria in the fifth edition of its *Diagnostic and Statistical Manual of Mental Disorders (DSM-5; 1)*. PTSD is included in a new category in *DSM-5*, Trauma- and Stressor-Related Disorders.



All of the conditions included in this classification require exposure to a traumatic or stressful event as a diagnostic criterion. For a review of the *DSM-5* changes to the criteria for PTSD. Diagnostic criteria according to *DSM-5*; 1 as follows: (APA, 2013).

- **Criterion A (one required):** The person was exposed to: death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence, in the following way(s):
  - Direct exposure
  - Witnessing the trauma
  - Learning that a relative or close friend was exposed to a trauma
  - Indirect exposure to aversive details of the trauma, usually in the course of professional duties (e.g., first responders, medics)
  
- **Criterion B (one required):** The traumatic event is persistently re-experienced, in the following way(s):
  - Intrusive thoughts
  - Nightmares
  - Flashbacks
  - Emotional distress after exposure to traumatic reminders
  - Physical reactivity after exposure to traumatic reminders
  
- **Criterion C (one required):** Avoidance of trauma-related stimuli after the trauma, in the following way(s):
  - Trauma-related thoughts or feelings
  - Trauma-related reminders

- **Criterion D (two required):** Negative thoughts or feelings that began or worsened after the trauma, in the following way(s):
  - Inability to recall key features of the trauma
  - Overly negative thoughts and assumptions about oneself or the world
  - Exaggerated blame of self or others for causing the trauma
  - Negative affect
  - Decreased interest in activities
  - Feeling isolated
  - Difficulty experiencing positive affect
  
- **Criterion E (two required):** Trauma-related arousal and reactivity that began or worsened after the trauma, in the following way(s):
  - Irritability or aggression
  - Risky or destructive behavior
  - Hypervigilance
  - Heightened startle reaction
  - Difficulty concentrating
  - Difficulty sleeping
  
- **Criterion F (required):** Symptoms last for more than 1 month.
  
- **Criterion G (required):** Symptoms create distress or functional impairment (e.g., social, occupational).
  
- **Criterion H (required):** Symptoms are not due to medication, substance use, or other illness.

### **2.2.3.2 Predictors and prevalence of PTSD**

Lifetime prevalence of PTSD varies across the WMH surveys when examining prevalence using a randomly selected traumatic event rather than the worst event. Lifetime prevalence accounted for 2.3% of the population in South Africa (Atwoli et al., 2013), 2.2% in Spain (Carmassi et al., 2014), and 2.4% in Italy (Olaya et al., 2015), whereas the prevalence was lower accounted for 1.3% in Japan (Kawakami et al., 2014), while Northern Ireland reported the highest lifetime PTSD prevalence of 8.8% (Ferry et al., 2014).

A study examined predictors of posttraumatic stress in a sample of 402 college students reporting a wide range of trauma, found that elevations in antisocial and borderline traits were significant predictors of retraumatization, accounting for 12% of the variance. Personality variables and trauma intensity were significant predictors of PTSD severity, accounting for 43% of the variance. Neuroticism interacted with trauma intensity in predicting PTSD severity. Among persons low in Neuroticism, there was a modest trauma intensity—PTSD relationship, whereas among persons high in neuroticism there was a strong relationship (Lauterbach and Vrana, 2001).

The Palestinian population living in the occupied territories has been subjected to continuous violence, such as shooting, bombardment, and physical injuries. As a result of this ongoing crisis, Palestinians have developed severe psychological distress (Thabet et al., 2004 & 2008). A study carried out among adolescent refugees in GS by Thabet et al., (2004) found that 52.6% of study participants had moderate PTSD and 23.9% had severe PTSD symptoms. Another case control study conducted in GS included a sample of children whom their homes were demolished by Israeli military forces found that 59.3% of children who have their homes demolished had symptoms of PTSD, while 24.7% of their counterparts (did not have their home demolished) had symptoms of PTSD (Thabet et al.,

2002). Furthermore, a study carried out in GS by Quota, (2003) found that 54% of study participants reported PTSD reactions, 33.5 reported moderate reactions, and 11% reported mild reactions.

A study examined the prevalence of PTSD among Palestinian children included 944 children aged 10 – 19 years, living under severe conditions indicated that 32.7% of the children developed acute PTSD symptoms that need psychological intervention, while 49.2% of them suffered from moderate level of PTSD symptoms (Quota and El Sarraj, 2004). Another study carried out in GS found that 19.59% of martyrs' wives have mild symptoms, 55.27% have moderate symptoms and 22.61% have severe symptoms (Al-Rekeb, 2011)..

Furthermore, a study examined the impact of conflict on Palestinian children during the period September 2000 – October 2003, found that the children suffer from significant mental health disorders, including 33% with acute levels of PTSD, 49% with moderate levels and 15.6% low levels. In hot areas, 55% of the children have acute levels of PTSD, 35% moderate levels, and 9% low levels (Qouta, 2003).

Another study aimed to investigate the prevalence of PTSD among patients aged between 16 - 55 years attending primary health care clinics in the GS and the association between socio-demographic variables and PTSD. A total of 661 agreeing to participate in the study, found that the overall prevalence of PTSD symptoms was 29%, and significantly higher among females than in males ( $P=0.001$ ). Prevalence of PTSD among those exposed to traumatic events was 36%. Highly educated patients were more often exposed to traumatic events, but the prevalence of PTSD was lower than among less educated patients. Males exposed to traumatic events reported a lower prevalence of PTSD than traumatized females (Afana et al., 2002).

Another study was conducted in order to describe the occurrence of psychiatric disorders in the Palestinian populations of GS and WB. The study included 1254 patients who were clinically assessed using a semi-structured interview based on the DSM-IV-TR criteria. The results found that 23.2% reported PTSD, and that PTSD was more frequently identified in children  $\leq 15$  years old, factors significantly associated with PTSD included being witness to murder or physical abuse, receiving threats, and property destruction or loss (Espíe et al., 2009).

#### **2.2.4 Resilience**

Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress such as family and relationship problems, serious health problems or workplace and financial stressors. It means bouncing back from difficult experiences. It is not a trait that people either have or do not have, it involves behaviors, thoughts and actions that can be learned and developed in anyone, and that people who demonstrate resilience are people with optimistic attitude and positive emotionality and are able to effectively balance negative emotions with positive ones (APA, 2014). Resilience is generally thought of as a positive adaptation after a stressful or adverse situation (Hopf, 2010).

Resilience is most often considered a personality characteristic that moderates the negative effects of stress and promotes adaptation. Resilience was defined as the ability to successfully cope with change or misfortune (Kashdan et al., 2009). Masten (2001) defined resilience as "a phenomenon characterized by good outcomes". In addition, a person is considered to be resilient if his or her development has been significantly threatened but it has not been affected. In addition, Hjmedal et al., (2006) defined resilience as "a protective factor, processes and mechanisms that contribute to a good outcome, in spite of experiences

with stressors that hold a significant rise of developing psychopathologies, as it has been seen". Resilience has also been defined as the outcome of a combination between individual characteristics and the environment, which help to overcome obstacles (Gonzalez, 2007).

Resilience is an interactive dynamic construct that considers protective factors and positive adaptation in adversity, rather than focusing on risk factors and psychopathology. Spirituality was commonly reported to be important to resilience and adaptive in illnesses. It was postulated that belief in God or having faith helped individuals make sense of the illness and acted as a source of strength. Participants high in spirituality were reported to have better mental health and adjustment (Hjemdal et al., 2001; Chan et al., 2006; Haynes and Watt, 2008).

Three approaches can be applied to define resilience; in the first approach, resilience is defined as recovery from a low level after a traumatic event occurs to a normal level or baseline before a traumatic event happens. Bonanno, (2004) considered that recovery is not necessary to achieve resilience. Studies have also indicated that some trauma survivors may develop PTSD, whereas other survivors may not experience PTSD (Yehuda and Flory, 2007). In the second approach, resilience emerges or functions as a possible outcome of adversity (Carver, 1998). Therefore, resilience is a process of rebounding and changing after an individual experiences trauma (Bensimon, 2012). The third approach recommended that resilience should be considered as a personality trait and PTG should be described as a mode of adjustment to trauma (Tedeschi and Calhoun, 2004); in this approach, resilience is conceptualized as an idea of resistance, indicating the ability to resist negative change and remain stable (Bonanno, 2004), and it is hypothesized that individuals with high trait resilience remain resilient before, during, and after individuals experience trauma.

Many of the victims in armed conflicts areas are civilians who often need psychosocial assistance. However, interventions in post-conflict zones frequently are not responsive to local realities, rendering them ill-equipped to foster both local strengths and participation in the social repair process (Denov, 2010; Pupavac, 2001). This is due in some part to the fact that the resilience of communities and individuals affected by mass violence has not been given equal prominence as their suffering (Thomas et al., 2011). A combination of factors contributes to resilience. The primary factor in resilience is having caring and supportive relationships within and outside the family; relationships that create love and trust, provide role models and offer encouragement and reassurance help in enhancing a person's resilience. Several additional factors are associated with resilience, including: (1) The capacity to make realistic plans and take steps to carry them out. (2) A positive view of yourself and confidence in your strengths and abilities. (3) Skills in communication and problem solving. (4) The capacity to manage strong feelings and impulses (APA, 2015). Similar factors which develop and sustain a person's resilience were mentioned by Fredrickson and Branigan, (2005); the ability to make realistic plans and being capable of taking the steps necessary to follow through with them; a positive self-concept and confidence in one's strengths and abilities; communication and problem-solving skills; and the ability to manage strong impulses and feelings. The APA (2015) suggested 10 ways to build resilience, which are:

**1. Make connections:** Good relationships with close family members, friends or others are important. Accepting help and support from those who care about you and will listen to you strengthens resilience. Some people find that being active in civic groups, faith-based organizations, or other local groups provides social support and can help with reclaiming hope. Assisting others in their time of need also can benefit the helper.

- 2. Avoid seeing crises as insurmountable problems:** You can't change the fact that highly stressful events happen, but you can change how you interpret and respond to these events. Try looking beyond the present to how future circumstances may be a little better. Note any subtle ways in which you might already feel somewhat better as you deal with difficult situations.
- 3. Accept that change is a part of living:** Certain goals may no longer be attainable as a result of adverse situations. Accepting circumstances that cannot be changed can help you focus on circumstances that you can alter.
- 4. Move toward your goals:** Develop some realistic goals. Do something regularly even if it seems like a small accomplishment — that enables you to move toward your goals. Instead of focusing on tasks that seem unachievable, ask yourself, "What's one thing I know I can accomplish today that helps me move in the direction I want to go?"
- 5. Take decisive actions:** Act on adverse situations as much as you can. Take decisive actions, rather than detaching completely from problems and stresses and wishing they would just go away.
- 6. Look for opportunities for self-discovery:** People often learn something about themselves and may find that they have grown in some respect as a result of their struggle with loss. Many people who have experienced tragedies and hardship have reported better relationships, greater sense of strength even while feeling vulnerable, increased sense of self-worth, a more developed spirituality and heightened appreciation for life.
- 7. Nurture a positive view of yourself:** Developing confidence in your ability to solve problems and trusting your instincts helps build resilience.



- 8. Keep things in perspective:** Even when facing very painful events, try to consider the stressful situation in a broader context and keep a long-term perspective. Avoid blowing the event out of proportion.
- 9. Maintain a hopeful outlook:** An optimistic outlook enables you to expect that good things will happen in your life. Try visualizing what you want, rather than worrying about what you fear.
- 10. Take care of yourself:** Pay attention to your own needs and feelings. Engage in activities that you enjoy and find relaxing. Exercise regularly. Taking care of yourself helps to keep your mind and body primed to deal with situations that require resilience (APA, 2015).

Several studies investigated the concept of resilience in recent years. A study conducted in GS aimed to determine the level of resilience among children of mothers who were exposed to family violence found that resilience among children was high ( $m = 89.33 \pm 10.88$ ) and it was higher among male children compared to females (Al-Halag, 2011). Another study aimed to examine the level of resilience among university students in GS found that the level of resilience was 77.17, and that there were no significant differences in levels of resilience related to academic achievement, specialty, order, family income, and educational level of parents (Shagora, 2012). Resilience is a process rather than a trait, and research now shows that resilience is the result of individuals ability to interact with their environments and the processes that either promote well-being or protect them against the overwhelming influence of risk factors (Zautra et al., 2010).

### **2.2.5 Posttraumatic growth (PTG)**

Individual reactions to trauma vary greatly, ranging from negative effects and/or positive trauma consequences. Among the positive consequences to trauma is PTG, which conveys positive psychological change experienced as a result of the struggle with highly

challenging circumstances. The literature concerning PTG has recently seen an increase of research interest recently. In a metaanalysis review included 77 articles, 63% were published since 2000. Prior to this date, psychology had tended to view stress and trauma through a negative view with particular emphasis on PTSD and the negative health implications associated with stressors (Helgeson et al., 2006). Furthermore the literature had also concentrated on resilience, or how individuals bounce back after a trauma, but it is only recently that the literature is beginning to focus on the benefits of experiencing trauma (Haidt, 2006).

PTG refers to positive psychological change experienced as a result of adversity and other challenges in order to rise to a higher level of functioning, these sets of circumstances represent significant challenges to the adaptive resources of the individual, and pose significant challenges to individuals' way of understanding the world and their place in it; PTG is not about returning to the same life as it was previously experienced before a period of traumatic suffering; but rather it is about undergoing significant life-changing and psychological shifts in thinking and relating to the world, that contribute to a personal process of change, that is deeply meaningful (Tedeschi and Calhoun, 2004).

PTG was initially introduced by Tedeschi & Calhoun on 1995 as three aspects of perceived changes; in self, in sense of relationships with others, and in philosophy of life, then PTG has undergone several conceptual transformations, and the PTG inventory (PTGI) was developed into five domains of growth to measure renewed appreciation of life, new possibilities, enhanced personal strength, improved relationships with others, and spiritual change (Taku et al., 2008). The PTGI was expanded and included other variables that increase the possibility of psychological growth in the aftermath of trauma as: a) cognitive processing, engagement, or rumination. b) disclosure of concerns surrounding traumatic events, c) the reactions of others to self-disclosures, d) the sociocultural context in which

traumas occur and attempts to process, disclose, and resolve trauma, e) the personal dispositions of the survivor and the degree to which they are resilient, and f) the degree to which events either permit or suppress the aforementioned processes. The model also addresses how PTG may relate to wisdom, life satisfaction, and a sense of purpose in life (Tedeschi & McNally, 2011). Tedeschi and Calhoun classified three themes of PTG:

- First theme is a change in self-perception; survivors have reported increased self-assurance, self-reliance, and competence in dealing with difficult situations.
- Second theme is a change in relationships with others; after a traumatic event, people reported that their experiences resulted in the rekindling of lost relationships and the acceptance of social support.
- Third theme is changed philosophy of life; this theme includes an improved perspective on life, reappraisal of one's priorities, increased appreciation for one's existence, and stronger spiritual and religious beliefs (Tedeschi and Calhoun, 1996).

The literature on PTG shows that even though the causes of PTG are vast, the benefits reported fall into three main categories:

1. Feeling stronger and finding hidden abilities and strengths; this changes the persons self-concept and gives them confidence to face new challenges, e.g. If I can survive this I can survive anything;
2. Good relationships are strengthened, which is reflected in how people often speak of finding out who are their true friends after they have experienced a trauma;
3. priorities and philosophies concerning the present day and other people are altered, e.g. living for the moment and prioritizing your loved ones (Haidt, 2006; Joseph & Linley, 2005).

In addition, people who have experienced PTG show some of the following characteristics: greater appreciation of life, changed sense of priorities, warmer, more intimate relationships, greater sense of personal strength, and recognition of new possibilities or paths for one's life and spiritual development (Tedeschi and Calhoun, 1996).

Growth does not occur as a direct result of trauma, rather it is the individual's struggle with the new reality in the aftermath of trauma that is crucial in determining the extent to which PTG occurs; two personality characteristics that may affect the likelihood that people can make positive use of the after-math of traumatic events that befall them include extraversion and openness to experience, also, optimists may be better able to focus attention and resources on the most important matters, and disengage from uncontrollable or unsolvable problems (Tedeschi and Calhoun, 2004). The ability to grieve and gradually accept trauma could also increase the likelihood of growth. It also benefits a person to have supportive others that can aid in post-traumatic growth by providing a way to craft narratives about the changes that have occurred, and by offering perspectives that can be integrated into schema change (McAdams, 1993). Individual differences in coping strategies set some people on a maladaptive spiral, whereas others proceed on an adaptive spiral, and a person's level of confidence could also play a role in his ability to persist into growth (Tedeschi and Calhoun, 2004).

A number of factors have been associated with adaptive growth following exposure to a trauma:

- Spirituality has been shown to highly correlate with PTG and in fact, many of the most deeply spiritual beliefs are a result of trauma exposure (O'Rourke, 2008).
- Social support has been considered as a buffer to mental illness and stress response. In regards to PTG, not only is high levels of pre-exposure social support associated with

growth, but there is some neurobiological evidence to support the idea that support will modulate a pathological response to stress in the Hypothalamic-Pituitary-Adrenocortical Pathway in the brain (Ozbay, 2007).

- Acceptance coping; the ability to accept situations that cannot be changed is crucial for adapting to traumatic life events (Haas, 2015).

### **2.2.6 Association between trauma, PTSD, resilience, and PTG**

Exposure to war trauma has been independently associated with PTSD and other emotional disorders in children and adults. Individual's reaction to traumatic events varies from one person to another; some persons appear unaffected by the event, while others report negative or positive reactions. Negative symptoms associated with traumatic events have been described as anxiety, fatigue, depression, withdrawal, or lowered social aspiration, whereas positive changes may include closer relationships with family and friends or a greater appreciation of life (Tedeschi and Calhoun, 2004). PTSD and PTG have been empirically linked. Mixed results have been reported concerning this paradox in which PTSD was reported to vary based on the type of traumatic event. Previous studies reported different results concerning the association between exposure to traumatic events and individual reaction to the event. A study carried out in Sri Lanka by McCaslin et al., (2009) indicated a curvilinear relationship between peri-traumatic dissociation and PTG and between posttraumatic stress symptoms and PTG among Sri Lankan university students who had experienced a traumatic life event.

Another study was conducted in the GS, in areas under ongoing shelling and other acts of military violence, included 100 families, with 200 parents and 197 children aged 9-18 years, found that both children and parents reported a high number of experienced traumatic events, and high rates of PTSD and anxiety scores above previously established cut-offs. Among children, trauma exposure was significantly associated with total and

subscales PTSD scores, and with anxiety scores. In contrast, trauma exposure was significantly associated with PTSD intrusion symptoms in parents. Both war trauma and parents' emotional responses were significantly associated with children's PTSD and anxiety symptoms (Thabet et al., 2008).

Another study aimed to compare the incidence of traumatic events and its association with symptoms of post-traumatic stress disorder in three population groups in northern Uganda and southern Sudan who were affected by war found that Sudanese refugees reported the highest number of violent events experienced or witnessed ever and in the past one year. Witnessing of traumatic events, ever and in the past year, significantly predicted PTSD in surveyed population. Sex, age, education and occupation were also significantly associated with the development of PTSD symptoms. The population prevalence of PTSD was estimated to be 48% for Sudanese stayees, 46% for Sudanese refugees and 18% for Ugandan nationals (Karunakara et al., 2004).

A longitudinal study conducted among Israelis reported that growth was a response to distress, and that initial elevated PTSD in 2003 predicted subsequent elevated PTG in 2008, in addition, individuals with PTSD had higher PTG levels across times than resilient individuals who did not endorse PTSD symptoms (Dekel et al., 2012). Another study included 500 participants with varied exposure levels to trauma showed that trauma increased PTSD and growth levels, whereas resilience was associated positively with growth and negatively with PTSD (Bensimon, 2012).

Another study included 537 participants who attended the preliminary investigation and completed the Life Events Checklist were screened. The results showed that trauma was positively and significantly correlated with PTSD, trait resilience was positively associated with virtues and PTG; The relationship between trait resilience and PTG was moderated by

PTSD type (non-PTSD group vs. PTSD group). The results also indicated that trait resilience and virtues are positively related; thus, these factors contributed variances to PTG in the context of trauma (Duan et al., 2015).

Moreover, Tedeschi and Calhoun (2004) argue that PTG is the outcome of the post-trauma psychological struggle, and that stress-induced cognitive rumination transforms into constructive processing, which in turn initiates the development of growth. According to this formulation, it is expected that PTSD and PTG are positively related. Another study aimed to investigate the relationship between PTSD and PTG among Wenchuan earthquake survivors one year after the earthquake found that 40.1 and 51.1 of survivors reported PTSD and PTG respectively, also there was a positive association between PTG and PTSD (Jin et al., 2014). In contrary, other studies found nonsignificant relationship between PTSD and PTG in an Australian sample of adult survivors of childhood sexual abuse (Shakespeare-Finch and Dassel, 2009). A study carried out in the aftermath of the political violence in Peru between 1980–2000, found that despite high levels of exposure to violence, only 9.3% of the sample presented a level of symptoms that indicated possible PTSD, and resilience did not contribute to the overall variance of post-traumatic stress related symptoms, which was predicted by past exposure to violence, current life stress, age, and schooling. Resilience contributed instead to the variance of avoidance symptoms while not for re-experiencing or arousal symptoms (Suarez, 2013).

Another study carried out in GS aimed to establish the association between war traumatic experiences, PTSD symptoms and PTG among nurses in the GS, 2 years after an incursion on Gaza, and during a period of ongoing trauma exposure. The sample of the study consisted of 274 randomly selected nurses in Gaza who completed the Gaza Traumatic Events Checklist, PTSD Checklist, and Posttraumatic Growth Inventory. The results indicated that 19.7% of nurses reported full PTSD. There was a significant

relationship between traumatic events and PTSD scores as well as between community related traumatic events and PTG. Participants reported a range of traumatic events, but PTSD and PTG scores were more strongly associated with community rather than work-related traumas (Thabet et al., 2015). Furthermore, another study conducted in GS aimed to investigate the relationships between stressor due to restriction of Palestinian movement, traumatic events due to war on Gaza and psychological symptoms, quality of life, and resilience, included 502 randomly selected subjects from five areas of the GS found that the most common stressful situations due to siege were: feelings of being living in a big prison, cannot finish some construction and repair work in their house due to shortage of cement and building materials, prices were sharply increased in the last few years. Participants commonly reported traumatic events such as hearing shelling of the area by artillery, hearing the sonic sounds of the jetfighters, hearing the loud voice of drones, and watching mutilated bodies in TV. Males had significantly experienced severe traumatic events than females. People live in cities reported more traumatic events than those live in a village or a camp. As a reaction to stress and trauma Palestinians participants reported anxiety symptoms such as nervousness or shakiness inside, feeling tense or keyed up; while depression symptoms reported were feeling sad, and weak in parts of their body. However, feelings of worthlessness and thoughts of ending life were seldom. Females reported less stress and trauma, but they showed anxiety and somatization symptoms than males. Only 12.5% said that they evaluate their life as good, and 27.1% said they enjoy their life. Better quality of life is an indicator of wellbeing; females had higher level of quality of life. While, physical health activities of daily living were more in males. Palestinians used religious ways of coping with the stress and trauma, and 98% said God is helping all the time, they were proud of their achievements, and had strong sense of purpose in their life. There were statistically significant positive relationship between stress



due to the siege and closure and traumatic events, psychological symptoms, depression, somatization, and anxiety. However, there was statistically significant negative relationship between total score of stress due to the siege and closure and the total resilience factor and subscales, and quality of life. Total traumatic events were positively correlated with psychological symptoms, depression, somatization, and anxiety. This study reflected that siege and blockade situation was very stressful. Such stressors due to siege had negative influence on families (Thabet and Thabet, 2015).

## **Chapter Three**

### **Methodology**

This chapter presented the methodology that was used in this study including the study design, study population, study sample, eligibility criteria, period of the study, validity of study instrument, data collection, data entry and statistical analysis, and ethical and administrative considerations.

#### **3.1 Study design**

In order to answer the study questions, the researcher used descriptive, cross-sectional design in this study, which is useful for describing variables of the study as they naturally occur without interference from the researcher. Cross sectional studies are generally carried out on a population at a point of time or over a short period. Also, cross sectional designs examine the correlation between variables; they are economical, quick and managed easily (Polit, 2004).

#### **3.2 Study population**

The study population consisted of all secondary school students who are enrolled in governmental schools in Gaza Strip. According to PCBS report (2015), the total number of adolescents in GS is 430 thousands (219.5 thousand males and 210.5 thousand females).

#### **3.3 Study Sample and Sampling method**

To calculate the sample size, the researcher used Epi info program with 50% expected frequency and P value 0.05, the sample of the study consisted of 384 adolescents from secondary schools in GS. Actually, the final study sample consisted of 400 students, 200 male students and 200 female. Students who participated in the study were randomly

chosen from all the directorates of Ministry of Education in Gaza Strip as presented in table 3.1.

### 3.4 Setting of the study

The study was carried out at governmental secondary schools in all the directorates of Education (North Gaza, East Gaza, West Gaza, Middle Zone, Khanyounis, East Khanyounis, and Rafah directorate).

**Table (3.1): Distribution of study participants by directorates**

<b>Directorate of Education</b>	<b>Percentage of population</b>	<b>Number of participants</b>	<b>Percentage of sample</b>
North Gaza	19.0%	79	19.7%
East Gaza	35%	71	17.8%
West Gaza		72	18%
Middle Zone	14.5%	57	14.3%
West Khanyounis	19.5%	39	9.8%
East Khanyounis		41	10%
Rafah	12%	41	10%
<b>Total</b>		<b>400</b>	<b>100.0</b>

### 3.5 Period of the study

The study was conducted during the period from December 2015 to October 2016.

### 3.6 Eligibility

#### 3.6.1 Inclusion criteria

- All students (male and female), from secondary in Gaza Strip, who are registered in the secondary schools for the academic year 2016/2017.

### **3.6.2 Exclusion criteria**

- Students from private sector.
- Students from prep school and university students.

### **3.7 Tools of the study**

Data was collected by using close-ended, constructed self-administered questionnaires to assess the interrelation between study variables. Four instruments were used: Traumatic Events Checklist for Adolescents, Davidson PTSD Checklist, Youth Resilience Measure, and Post-traumatic Growth Inventory.

#### **3.7.1 Description of tools of the study**

##### **3.7.1.1 Traumatic Events Checklist**

The Traumatic Events Checklist (Arabic version) was prepared by Dr. Abdul Aziz Thabet (2014). It consisted of 28 paragraphs describing the most common traumatic experiences families could have faced in the GS during the last war on Gaza (2014), including shelling of their area of residence, internal displacement. The checklist was developed and adapted for the nature of traumatic events occurred during the war on 2014. The participants answer with Yes (1) and No (0). The scoring of the scale is considered by summing all the answers. The checklist was examined for internal consistency of the scale calculated using Cronbache alpha was 0.888.

##### **3.7.1.2 Posttraumatic stress disorder checklist**

This checklist contains 17 items adapted from the DSM-IV-TR PTSD symptom criteria (APA, 2000). The 17 PTSD symptoms are rated by the participant for the previous month on a scale indicating the degree to which the respondent was bothered by a particular

symptom from 1 (not at all) to 5 (extremely). Items can be categorized as follows: items 1-4, 17 are for criteria B (intrusive re-experiencing); items 5-11 are for criteria C) avoidance and numbness); and items 12-16 are for criteria D (hyperarousal). Respondents are asked to rate on a 5-point Likert scale (0 = not at all to 4 = extremely) the extent to which symptoms troubled them in the previous month. This scale was used in previous studies and showed high reliability and validity (Thabet et al., 2008). In this study, Reliability of the PTSD checklist using Cronbach's alpha was 0.828.

### **3.7.1.3 Resilience scale for adolescents [Thabet et al., 2015]**

The scale is a 28-item self-report scale using positively phrased. Higher scores reflect higher degree of resilience. This scale was developed using confirmatory factor analysis and has shown adequate psychometric properties (total Cronbache alpha = 0.94) and initial promising validity (Hjemdal et al., 2001). Results suggest that the Resilience Scale for Adolescents has three subscales reflecting the major categories of resilience. Furthermore, each subscale has its own groupings of questions that serve as indicators of the construct's major categories. The first subscale reflects an individual factor that includes personal skills (5 items), peer support (2 items), and social skills (4 items). The second subscale deals with caregiving, as reflected in physical caregiving (2 items) as well as psychological caregiving (5 items). The third subscale comprises contextual components that facilitate a sense of belonging in youth, components related to spirituality (3 items), culture (5 items), and education (2 items). The reliability of resilience scale using Cronbach's alpha was 0.861.

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

The PTGI comprises 21 items, with response choices ranging from 0-4 (0= I did not experience this change; 4= 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 Thabet, El Helou, Vostanis (2015). Reliability of the PTGI using Cronbach's alpha was 0.888.

### **3.8 Ethical and administrative considerations**

Before starting the study, the researcher obtained approval from Al Quds university to conduct the study. In addition, approval to carry out the study was obtained from Ministry of Education in GS. Also, voluntary participation was ensured, confidentiality of information was maintained.

### **3.9 Data collection**

Data was collected by the researcher; all questionnaires were arranged, organized and numbered serially. Each questionnaire consisted of consent form in the first page and tells the students to participate in the study voluntary, with time allocated for questionnaires extended between 30-45 minutes.

### **3.10 Data entry and analysis**

The researcher entered the data of all the questionnaires using the Statistical Package for Social Sciences (SPSS version 20) with assistance of statistician and the steps was as follows:

- Over viewing and coding the filled questionnaires.
- Designing data entry model.
- Defining and coding variables.
- Data cleaning.
- Frequency table, means, and percentage for the study variables.
- Conducting statistical procedures including Pearson correlation test, One Way ANOVA, LSD test, and *t* test.

### **3.11 Limitation of the study**

- Financial constraint is a major limitation
- Frequent cutoff of electricity
- Difficulty in arrangement and appointments with assigned schools which led to delay in data collection.

## Chapter Four

### Results and Discussion

This chapter presents the findings of statistical analysis of data. Description of demographic characteristics of study participants was illustrated and the results of different variables and dimensions were identified, moreover, the differences between selected variables and correlations were explored as illustrated below.

#### 4.1 Sociodemographic characteristic for study participants

**Table (4.1): Socio-demographic characteristics of study participants**

Variable	N	%
<b>Gender</b>		
Male	200	50.0
Female	200	50.0
<b>Age mean 16.672 (SD=0.80)</b>		
<b>Family monthly income</b>		
Less than 1200 NIS	190	47.5
1201-2000	91	22.8
2001-3000	60	15.0
More than 3000	59	14.8
<b>Fathers' job</b>		
Unemployed	127	31.8
Worker	55	13.8
Work with salary	91	22.8
Don't work & take salary	60	15.0
Dealer	21	5.3
Others	46	11.5
<b>Fathers' education</b>		
Not educated	14	3.5
Elementary	27	6.8
Preparatory	52	13.0
Secondary	135	33.8
Diploma	30	7.5
University	106	26.5
Post graduate	36	9.0



The study sample consisted of 400 students (200 male students and 200 female students) from the governmental secondary schools from Gaza Strip. Sociodemographic characteristics of study participants showed that participants' age ranged between 15 – 18 years, mean age was  $16.672 \pm 0.804$ . According to place of residence, 19.8% of the study participants live in North Gaza, 17.8% live in East Gaza, 18.0% West Gaza, 14.3% live in middle area, 9.8% live in Khanyounis, 10.3% in East Khanyounis, and 10.3% live in Rafah. In addition, 25.3% of them had family members 4 and less, 42.0% had family member from 5 to 7, and 32.8% had family members 8 and more. Concerning family income, the results showed that 47.5% of the families had monthly income 1200 NIS, 22.8% had monthly income range from 1201 to 2000 NIS, 15.0% income from 2001 to 3000 NIS, 14.8% income more than 3000 NIS. Moreover, 31.8% of the fathers were unemployed, 13.8% were workers, 22.8% work with salary, 15.0% don't work (on long term strike) and receive salary, 5.3% were dealers, while 11.5% work at other jobs. The results also showed that 3.5% of fathers were not educated (did not go to school), 6.8% had completed elementary school, 13.0% completed preparatory school, 33.8% completed secondary school, 7.5% had diploma certificate, 26.5% had bachelor degree, and 9.0% postgraduate studies.

## 4.2 Exposure to traumatic events

### 4.2.1 Frequency of exposure to traumatic events

**Table (4.2) Frequency of exposure to traumatic events among study participants**

No	Paragraph	Yes		No.	
		No.	%	No.	%
1	Hearing the death of your a friend or neighbor during the war	318	79.5	82	20.5
2	Hearing the death of your father or brother or sister or a relative	187	46.8	213	53.3
3	Hearing the voices of the bombing on different areas of the Gaza	369	92.3	31	7.8
4	Listening to the sound of drones constantly	345	86.3	55	13.8
5	witnessing death of a friend	129	32.3	271	67.8
6	witnessing the death of a father or a brother or sister or a relative	107	26.8	293	73.3
7	witnessing injuring of your friend by shrapnel or bullets	124	31.0	276	69.0
8	witnessing injuring of your father or a brother or sister or a relative by shrapnel or bullets	99	24.8	301	75.3
9	witnessing your home demolished, and destroying by shelling or	123	30.8	277	69.3
10	witnessing your neighbor's home demolished by shelling or	180	45.0	220	55.0
11	witnessing a father / brother / sister / mother / relative arrested	128	32.0	272	68.0
12	witnessing a friend arrested	126	31.5	274	68.5
13	witnessing pictures of wounded and the remains of the martyrs on	227	56.8	173	43.3
14	witnessing high-rise apartment towers and the bombing in front of your eyes and flattened	236	59.0	164	41.0
15	witnessing assassinations by rockets	190	47.5	210	52.5
16	Exposure to physical injury as a result of the bombing of your	120	30.0	280	70.0
17	Exposure to injury by shrapnel from a bomb or missile, or lead	103	25.8	297	74.3
18	Exposure to detention at home and deprived of water, food and	127	31.8	273	68.3
19	Exposure to shoot to intimidation	123	30.8	277	69.3
20	Destroying of your personal belongings during incursion	108	27.0	292	73.0
21	Threaten by killing	114	28.5	286	71.5
22	Threatening to kill a family member	100	25.0	300	75.0
23	Put you at serious risk to use as a human shield to catch your	115	28.8	285	71.3
24	Forced to leave you home with family members due to shelling	134	33.5	266	66.5
25	Exposure to arrest during invasion	155	38.8	245	61.3
26	Exposure to inhalation of bad smells due to bombardment	212	53.0	188	47.0
27	Exposure to threats by telephone to leave the home to bombing	194	48.5	206	51.5
28	Exposure to the threat to leave the home in the border areas and to go to the city center via leaflets from planes	194	48.5	206	51.5

Table (4.2) showed that the most common traumatic events were: 92.3% of study participants reported hearing the voices of the bombing on different areas of the GS, 86.3% reported listening to the sound of drones constantly, and 79.5% reported hearing the death of a friend or neighbor during the war, while the least traumatic events were: 24.8% reported witnessing injuring of your father or a brother or sister or a relative by shrapnel or bullets, 25% reported threatening to kill a family member, and 25.8% reported exposure to injury by shrapnel from a bomb or missile, or lead.

#### 4.2.2 Severity of traumatic events

**Table (4.3) Severity of traumatic events among study participants**

<b>Severity of traumatic events</b>	<b>No.</b>	<b>%</b>
Mild	52	13.0
Moderate	159	39.8
Severe	189	47.3
<b>Total</b>	<b>400</b>	<b>100.0</b>

Table (4.3) showed that 13% of study participants reported mild traumatic events, 39.8% reported moderate traumatic events, and 47.3% reported severe traumatic events.

#### 4.2.3 Differences in traumatic events in relation to selected variables

**Table (4.4) Differences in traumatic events related to gender**

<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>T</b>	<b>P value</b>
<b>Male</b>	200	12.12	6.06	1.25	0.200
<b>Female</b>	200	11.32	6.72		

Table 4.4 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in experience of trauma related to gender ( $t= 1.25, P= 0.200$ ).

**Table (4.5) Differences in traumatic events related to age**

Source of variation	Sum of squares	DF	Mean square	F	P value
<b>Between groups</b>	151.277	3	50.426	1.232	0.298
<b>Within groups</b>	16207.801	396	40.929		
<b>Total</b>	16359.078	399			

Table 4.5 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in experience of trauma related to age ( $F= 1.232, P= 0.298$ ).

**Table (4.6) Differences in traumatic events related to place of residency**

Source of variation	Sum of squares	DF	Mean square	F	P value
<b>Between groups</b>	0.593	6	0.099	1.915	0.077
<b>Within groups</b>	20.273	393	0.052		
<b>Total</b>	20.866	399			

Table 4.6 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in experience of trauma related to place of residency ( $F= 1.915, P= 0.077$ ).

**Table (4.7) Differences in traumatic events related to family size**

Source of variation	Sum of squares	DF	Mean square	F	P value
<b>Between groups</b>	0.142	2	0.071	1.362	0.257
<b>Within groups</b>	20.724	397	0.052		
<b>Total</b>	20.866	399			

Table 4.7 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in experience of trauma related to family size (F= 1.362, P= 0.257).

**Table (4.8) Differences in traumatic events related to family monthly income**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	0.314	3	0.105	2.017	0.111
Within groups	20.552	396	0.052		
Total	20.866	399			

Table 4.8 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in experience of trauma related to family income (F= 2.017, P= 0.111).

**Table (4.9) Differences in traumatic events related to fathers' job**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	0.131	5	0.026	0.497	0.778
Within groups	20.735	394	0.053		
Total	20.866	399			

Table 4.9 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in experience of trauma related to fathers' job (F= 0.497, P= 0.778).

**Table (4.10) Differences in traumatic events related to fathers' education**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	0.354	6	0.059	1.129	0.345
Within groups	20.513	393	0.052		
Total	20.866	399			

Table 4.10 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in experience of trauma related to fathers' education ( $F= 1.129, P= 0.345$ ).

### 4.3 Post-traumatic Stress Disorder (PTSD)

#### 4.3.1 Level of PTSD

**Table (4.11) Mean and standard deviation of PTSD among study participants**

Domain	N	Minimum	Maximum	Mean	SD
Total PTSD	400	17.0	68.0	38.60	11.10
Intrusion	400	5.0	24.0	12.97	4.10
Avoidance	400	7.0	29.0	14.39	5.14
Arousal	400	5.0	23.0	11.24	4.54

Table (4.11) showed that the mean score of total PTSD was 38.60, and SD was 0.65. This result indicated that adolescents in GS have PTSD with moderate degree. Analysis of subscales showed that avoidance was the highest with mean score 14.39 and SD was 5.14, followed by intrusion with mean score 12.97 and SD was 4.10, and arousal with mean score 11.24 and SD was 4.54.

**Table (4.12) Prevalence of PTSD symptoms**

PTSD	No.	%
No PTSD	110	27.5
One symptom	152	38.0
Partial PTSD	96	24.0
Full PTSD	42	10.5
<b>Total</b>	<b>400</b>	<b>100.0</b>

According to DSM-IV diagnosis of PTSD of summing of (one re-experiencing, 3 avoidance, and 2 arousal symptoms). Table 4.13 shows that 110 (27.5%) of study participants showed no PTSD, 152 (38.0%) of study participants showed at least one criteria of PTSD (B or C or D), 96 (24.0%) showed partial PTSD, and 42 (10.5%) of study participants showed full criteria of PTSD.

#### 4.3.2 Differences in PTSD in relation to selected variables

**Table (4.13) Differences in PTSD related to gender**

<b>Variable</b>	<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>t</b>	<b>P value</b>
<b>Total PTSD</b>	Male	200	37.75	11.56	-1.53	0.13
	Female	200	39.45	10.59		
<b>Intrusion</b>	Male	200	12.36	4.04	-2.99	0.001*
	Female	200	13.58	4.08		
<b>Avoidance</b>	Male	200	14.60	5.45	0.81	0.42
	Female	200	14.18	4.82		
<b>Arousal</b>	Male	200	10.80	4.53	-1.99	0.05*
	Female	200	11.70	4.52		

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Table (4.13) showed that girls had more intrusion symptoms than boys ( $t= 2.99$ ,  $p= 0.001$ ), and more arousal symptoms ( $t= 1.99$ ,  $p= 0.05$ ), but there were no significant differences in avoidance and total PTSD symptoms between boys and girls.

**Table (4.14) Differences in PTSD related to age**

<b>Variable</b>	<b>Source of variation</b>	<b>Sum of squares</b>	<b>DF</b>	<b>Mean square</b>	<b>F</b>	<b>P value</b>
<b>Total PTSD</b>	Between groups	326.131	3	108.710	0.881	0.451
	Within groups	48861.869	396	123.389		
	Total	49188.000	399			
<b>Intrusion</b>	Between groups	11.545	3	3.848	0.228	0.877
	Within groups	6693.033	396	16.902		
	Total	6704.578	399			
<b>Avoidance</b>	Between groups	141.210	3	47.070	1.789	0.149
	Within groups	10419.727	396	26.312		
	Total	10560.938	399			
<b>Arousal</b>	Between groups	49.452	3	16.484	0.797	0.496
	Within groups	8188.538	396	20.678		
	Total	8237.990	399			

Table 4.14 showed that there were statistically no significant differences in total PTSD (F= 0.881, p= 0.451), intrusion (F= 0.228, p= 0.877), avoidance (F= 1.789, p= 0.149), and arousal (F= 0.797, p= 0.496) related to age of study participants.



**Table (4.15) Differences in PTSD related to place of residency**

<b>Variable</b>	<b>Source of variation</b>	<b>Sum of squares</b>	<b>DF</b>	<b>Mean square</b>	<b>F</b>	<b>P value</b>
<b>Total PTSD</b>	Between groups	1107.921	6	184.653	1.509	0.174
	Within groups	48080.08	393	122.341		
	Total	49188.00	399			
<b>Intrusion</b>	Between groups	170.743	6	28.457	1.712	0.117
	Within groups	6533.834	393	16.626		
	Total	6704.578	399			
<b>Avoidance</b>	Between groups	127.103	6	21.184	0.798	0.572
	Within groups	10433.83	393	26.549		
	Total	10560.94	399			
<b>Arousal</b>	Between groups	298.750	6	49.792	2.465	0.024 *
	Within groups	7939.240	393	20.202		
	Total	8237.990	399			

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Table 4.15 showed that there were statistically no significant differences at  $\alpha \leq 0.05$  in total PTSD (F= 1.509, p= 0.174), intrusion symptoms (F= 1.712, p= 0.117), and avoidance symptoms (F= 0.798, 0.572), but differences were significant in arousal symptoms (F= 2.465, p= 0.024). Post hoc LSD indicated that arousal symptoms were higher among participants from North Gaza.

**Table (4.16) Differences in PTSD related to family size**

<b>Variable</b>	<b>Source of variation</b>	<b>Sum of squares</b>	<b>DF</b>	<b>Mean square</b>	<b>F</b>	<b>P value</b>
<b>Total PTSD</b>	Between groups	169.130	2	84.565	0.685	0.505
	Within groups	49018.87	397	123.473		
	Total	49188.00	399			
<b>Intrusion</b>	Between groups	2.350	2	1.175	0.070	0.933
	Within groups	6702.228	397	16.882		
	Total	6704.578	399			
<b>Avoidance</b>	Between groups	20.576	2	10.288	0.387	0.679
	Within groups	10540.36	397	26.550		
	Total	10560.94	399			
<b>Arousal</b>	Between groups	70.469	2	35.325	1.717	0.181
	Within groups	8167.341	397	20.573		
	Total	8237.990	399			

Table 4.16 showed that there were statistically no significant differences in total PTSD (F= 0.685, p= 0.505), intrusion symptoms (F= 0.070, p= 0.933), avoidance symptoms (F= 0.387, p= 0.679), and arousal symptoms (F= 1.717, p= 0.181) related to family size.

**Table (4.17) Differences in PTSD related to family monthly income**

<b>Variable</b>	<b>Source of variation</b>	<b>Sum of squares</b>	<b>DF</b>	<b>Mean square</b>	<b>F</b>	<b>P value</b>
<b>Total PTSD</b>	Between groups	170.555	3	56.852	0.459	0.711
	Within groups	49017.45	396	123.781		
	Total	49188.00	399			
<b>Intrusion</b>	Between groups	38.009	3	12.670	0.753	0.521
	Within groups	6666.568	396	16.835		
	Total	6704.578	399			
<b>Avoidance</b>	Between groups	26.825	3	8.942	0.336	0.799
	Within groups	10534.11	396	26.601		
	Total	10560.94	399			
<b>Arousal</b>	Between groups	22.692	3	7.564	0.365	0.779
	Within groups	8215.298	396	20.746		
	Total	8237.990	399			

Table 4.17 showed that there were statistically no significant differences in total PTSD (F= 0.459, p= 0.711), intrusion symptoms (F= 0.753, p= 0.521), avoidance symptoms (F= 0.336, p= 0.799), and arousal symptoms (F= 0.365, p= 0.779) related to monthly income.

**Table (4.18) Differences in PTSD related to fathers' job**

<b>Variable</b>	<b>Source of variation</b>	<b>Sum of squares</b>	<b>DF</b>	<b>Mean square</b>	<b>F</b>	<b>P value</b>
<b>Total PTSD</b>	Between groups	945.147	5	189.029	1.544	0.175
	Within groups	48242.85	394	122.444		
	Total	49188.00	399			
<b>Intrusion</b>	Between groups	113.670	5	22.734	1.359	0.239
	Within groups	6590.908	394	16.728		
	Total	6704.578	399			
<b>Avoidance</b>	Between groups	295.583	5	59.117	2.269	0.047 *
	Within groups	10265.35	394	26.054		
	Total	10560.94	399			
<b>Arousal</b>	Between groups	48.294	5	9.659	0.465	0.803
	Within groups	8189.696	394	20.786		
	Total	8237.990	399			

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Table 4.18 showed that there were no statistical significant differences at  $\alpha \leq 0.05$  in total PTSD (F= 1.544, p= 0.175), intrusion symptoms (F= 1.359, p= 0.239), and arousal symptoms (F= 0.465, 0.803), related to fathers' job but differences were significant in avoidance symptoms (F= 2.469, p= 0.047). Post hoc LSD indicated that avoidance symptoms were higher among participants whose their fathers were dealers.

**Table (4.19) Differences in PTSD related to fathers' education**

<b>Variable</b>	<b>Source of variation</b>	<b>Sum of squares</b>	<b>DF</b>	<b>Mean square</b>	<b>F</b>	<b>P value</b>
<b>Total PTSD</b>	Between groups	520.346	6	86.724	0.700	0.650
	Within groups	48667.65	393	123.836		
	Total	49188.00	399			
<b>Intrusion</b>	Between groups	59.334	6	9.889	0.585	0.742
	Within groups	6645.244	393	16.909		
	Total	6704.578	399			
<b>Avoidance</b>	Between groups	97.578	6	16.293	0.612	0.721
	Within groups	10463.18	393	26.624		
	Total	10560.94	399			
<b>Arousal</b>	Between groups	94.717	6	15.786	0.762	0.600
	Within groups	8143.273	393	20.721		
	Total	8237.990	399			

Table 4.19 showed that there were no statistical significant differences at  $\alpha \leq 0.05$  in total PTSD (F= 0.700, p= 0.650), intrusion (F= 0.585, p= 0.742), avoidance (F= 0.612, 0.721), and arousal (F= 0.762, p= 0.600) related to fathers' level of education.

## 4.4 Resilience

### 4.4.1 Level of resilience

**Table (4.20) Mean and standard deviation of resilience among study participants**

<b>Resilience domains</b>	<b>N</b>	<b>No. of items</b>	<b>Mean</b>	<b>SD</b>
Personal skills	400	5	13.893	3.879
Peer component	400	2	5.535	2.199
Social skills	400	4	10.572	3.350
Physical relationship with caregiver	400	2	5.410	2.211
Psychological relationship with caregiver	400	5	15.815	3.589
Spiritual beliefs	400	3	9.367	2.489
Culture	400	5	15.470	4.041
Education	400	2	4.417	1.719
Total resilience	400	28	80.480	15.473

Table (4.20) showed that the mean score of total resilience among study participants was 80.480, (SD= 15.473), personal skills mean score was 13.893 (SD= 3.879), peer component mean score was 5.535 (SD= 2.199), social skills mean score was 10.572 (SD= 3.350), physical relationship with care giver mean score was 5.410 (SD= 2.211), psychological relationship with care giver mean score was 15.815 (SD= 3.589), spiritual beliefs mean score was 9.367 (SD= 2.489), culture mean score was 15.470 (SD= 4.041), education mean score was 4.417 (SD= 1.719). These results indicated that adolescents in GS have above moderate level of resilience.

#### 4.4.2 Differences in resilience related to selected variables

**Table (4.21) Differences in resilience related to gender**

Gender	N	Mean	SD	T	Sig
Male	200	80.025	17.630	-0.588	0.557
Female	200	80.935	12.993		

Table 4.21 showed that there were no statistical significant differences at ( $\alpha \leq 0.05$ ) in resilience related to gender of participants ( $t= 0.588$ ,  $p= 0.557$ ).

**Table (4.22) Differences in resilience related to age**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	897.843	3	299.281	1.252	0.290
Within groups	94638.00	396	238.985		
Total	95535.84	399			

Table 4.22 showed that there were no statistical significant differences at ( $\alpha \leq 0.05$ ) in resilience related to age of participants ( $F= 1.252$ ,  $p= 0.290$ ).

**Table (4.23) Differences in resilience related to place of residence**

Source of variation	Sum of squares	DF	Mean square	F	Sig level
Between groups	3039.862	6	506.644	2.153	0.047 *
Within groups	92495.98	393	235.359		
Total	95535.84	399			

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 4.23 showed that there were statistically significant differences at ( $\alpha \leq 0.05$ ) in resilience related to place of residency ( $F= 2.153$ ,  $p= 0.047$ ). To detect these differences, Fisher's Least Significant Degree (LSD) test was performed and found that the study participants from Khanyounis and Rafah had higher resilience compared to other governorates.

**Table (4.24) Differences in resilience related to family size**

Source of variation	Sum of squares	DF	Mean square	F	Sig level
Between groups	769.766	2	384.883	1.612	0.201
Within groups	94766.07	397	238.705		
Total	95535.84	399			

Table 4.24 showed that there were no statistical significant differences at ( $\alpha \leq 0.05$ ) in resilience related to family size ( $F= 1.612$ ,  $p= 0.201$ ).

**Table (4.25): Differences in resilience related to family monthly income**

Source of variation	Sum of Squares	DF	Mean Square	F	Sig level
Between groups	35.221	3	11.740	0.049	0.986
Within groups	95500.62	396	241.163		
Total	95535.84	399			

Table 4.25 showed that there were no statistical significant differences at ( $\alpha \leq 0.05$ ) in resilience related to monthly income ( $F= 0.049$ ,  $p= 0.986$ ).



**Table (4.26) Differences in resilience related to fathers' job**

Source of variation	Sum of squares	DF	Mean square	F	Sig level
Between groups	1469.856	5	293.971	1.231	0.294
Within groups	94065.98	394	238.746		
Total	95535.84	399			

Table 4.26 showed that there were no statistical significant differences at ( $\alpha \leq 0.05$ ) in resilience related to fathers' job ( $F= 1.231$ ,  $p= 0.294$ ).

**Table (4.27) Differences in resilience related to fathers' education**

Source of variation	Sum of squares	DF	Mean square	F	Sig level
Between groups	1493.001	6	248.834	1.040	0.399
Within groups	94042.84	393	239.295		
Total	95535.84	399			

Table 4.27 showed that there were no statistical significant differences at ( $\alpha \leq 0.05$ ) in resilience related to fathers' job ( $F= 1.231$ ,  $p= 0.294$ ).

## 4.5 Post traumatic growth (PTG)

### 4.5.1 Level of PTG

**Table (4.28): Participants response on PTG scale**

No.	Item	0 (%)	1 (%)	2 (%)	3 (%)	4 (%)	Mean	SD
1	My aims in life changed in comparison with before the war	21.0	20.0	26.8	19.8	12.5	1.82	1.30
2	I appreciate the value of my life more	15.5	17.0	27.5	23.5	16.5	2.08	1.29
3	I developed new interests.	15.3	23.8	27.3	19.3	14.5	1.94	1.27
4	I have more self-confidence.	12.3	16.3	24.0	22.8	24.8	2.31	1.33
5	I understand spiritual matters better	9.5	17.3	17.5	27.0	28.8	2.48	1.32
6	I know that I can count more on people when I am in trouble.	12.8	19.0	21.3	25.0	22.0	2.24	1.33
7	I established a new path for my life.	15.5	19.8	21.8	22.3	20.8	2.13	1.36
8	I feel closer to others.	8.8	12.5	24.8	30.0	24.0	2.48	1.22
9	I am more willing to express my feelings.	18.8	14.5	27.3	20.3	19.3	2.06	1.36
10	I know that I can deal with problems better.	19.5	18.3	25.5	21.3	15.5	1.95	1.34
11	I can do more good with my life.	17.3	18.5	24.5	20.8	19.0	2.05	1.35
12	I accept better the way things turn out.	12.5	9.3	19.8	26.5	32.0	2.56	1.35
13	I can appreciate each new day more.	9.5	12.8	15.5	29.3	33.0	2.63	1.31
14	I have new opportunities which would not have been available otherwise.	14.8	12.5	29.8	26.3	16.8	2.17	1.27
15	I have more compassion for others.	20.3	17.8	27.3	22.0	12.8	1.89	1.30
16	I try to have the best relationships to others.	12.3	15.8	21.5	22.0	28.5	2.38	1.36
17	I try to change things which need changing.	5.8	15.8	24.3	25.8	28.5	2.55	1.21
18	I believe more strongly in God.	8.0	13.0	13.5	25.0	40.5	2.77	1.31
19	I discovered that I'm stronger than I thought I was.	38.8	26.3	18.8	7.3	9.0	1.21	1.27
20	I learned a lot about how wonderful people are.	16.3	18.0	24.8	21.5	19.5	2.10	1.34
21	I accept more that I need other people.	13.5	20.0	25.8	21.5	19.3	2.13	1.30

Table 4.28 showed the adolescents' responses on PTGI. The obtained results indicated that the highest score was in the item "I believe more strongly in God" with mean score 2.77 and SD 1.31, which reflects that religious believe and trust in God will strengthen the individual and enable him to continue his life and confront the challenges that may face his way. The second score was in the item "I can appreciate each new day more" with mean score 2.63 and SD 1.31, which reflected that adolescents were optimistic in their future and that tomorrow will be better than today. The third score was in the item "I accept better the way things turn out" with mean score 2.56 and SD 1.35, which reflects acceptance of the hard circumstances and acting through these circumstances which is a challenge for their success in life. The fourth score was in the item "I try to change things which need changing" with mean score 2.55 and SD 1.21, which reflects the individual's will to change and adapt to the hard circumstances they live in.

**Table (4.29) Mean and standard deviation of post traumatic growth**

<b>Posttraumatic growth domains</b>	<b>N</b>	<b>No. of items</b>	<b>Mean</b>	<b>SD</b>
Appreciation of life	400	3	6.547	2.792
Spiritual change	400	2	5.252	2.244
Personal strength	400	4	8.042	3.276
Relating to others	400	7	15.302	5.782
New possibilities	400	5	10.860	4.262
Total score	400	21	46.005	15.323

Table (4.29) showed that the mean score of total posttraumatic growth among study participants was 46.005 (SD= 15.323), appreciation of life mean score 6.547 (SD= 2.792), spiritual change mean score 5.252 (SD= 2.244), personal strength mean score 8.042 (SD=

3.276), relating to others mean score 15.302 (SD= 5.782), and new possibilities mean score 10.860 (SD= 4.262).

#### 4.5.2 Differences in PTG related to selected variables

**Table (4.30) Differences in PTG related to gender**

Gender	N	Mean	SD	T	Sig
Male	200	45.42	15.66	-0.757	0.450
Female	200	46.58	14.99		

Table 4.30 showed that there were no significant differences  $\alpha \leq 0.05$  in PTG between male and female students ( $t= 0.757$ ,  $p= 0.450$ ).

**Table (4.31) Differences in PTG related to age**

Source of variation	Sum of Squares	DF	Mean Square	F	P value
<b>Between groups</b>	2662.629	3	887.543	3.861	0.010
<b>Within groups</b>	91027.36	396	229.867		
<b>Total</b>	93689.99	399			

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 4.31 showed that there were statistically significant differences in PTG related to age of participants ( $F= 3.861$ ,  $p= 0.010$ ). To detect these differences, Post hoc LSD was performed which showed that participants from age 18 years had lower PTG than those aged 15 – 16 years old.

**Table (4.32) Differences in PTG related to place of residency**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	2808.874	6	468.146	2.024	0.061
Within groups	90881.12	393	231.250		
Total	93689.99	399			

Table 4.32 showed that there were statistically no significant differences in PTG related to place of residency ( $F= 2.024$ ,  $p= 0.061$ ).

**Table (4.33) Differences in PTG related to family size**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	38.822	2	19.411	0.082	0.921
Within groups	93651.17	397	235.897		
Total	93689.99	399			

Table 4.33 showed that there were statistically no significant differences in PTG related to family size ( $F= 0.082$ ,  $p= 0.921$ ).

**Table (4.34) Differences in PTG related to family monthly income**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	375.509	3	125.170	0.531	0.661
Within groups	93314.48	396	235.643		
Total	93689.99	399			

Table 4.34 showed that there were statistically no significant differences in PTG related to family income ( $F= 0.531$ ,  $p= 0.661$ ).

**Table (4.35) Differences in PTG related to fathers' job**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	2134.341	5	426.868	1.837	0.105
Within groups	91555.65	394	232.375		
Total	93689.99	399			

Table 4.35 showed that there were statistically no significant differences in PTG related to fathers' job ( $F= 1.837$ ,  $p= 0.105$ ).

**Table (4.36) Differences in PTG related to fathers' education**

Source of variation	Sum of squares	DF	Mean square	F	P value
Between groups	648.128	6	108.021	0.456	0.840
Within groups	93041.86	393	236.748		
Total	93689.99	399			

Table 4.37 showed that there were statistically no significant differences in PTG related to fathers' education ( $F= 0.456$ ,  $p= 0.840$ ).

#### 4.6 Relationship between traumatic events and PTSD, resilience, and PTG

To examine the relationship between traumatic events and PTSD, resilience, and PTG, the researcher performed Pearson correlation test as shown below.

**Table (4.37) Relationship between traumatic events & PTSD, resilience, and PTG  
(Pearson Correlation test)**

Variable		Traumatic events	PTSD	Resilience	PTG
Traumatic events	R	1.00	0.276	-0.167	-0.187
	P value	--	0.000 *	0.001 *	0.000 *
PTSD	R		1.00	-0.308	0.005
	P value		--	0.000 *	0.927//
Resilience	R			1.00	0.259
	P value			--	0.000 *
PTG	R				1.00
	P value				--

R= correlation coefficient \* statistically significant at  $\alpha \leq 0.05$  // = not significant

Table (4.37) showed that there was statistically significant relationship at  $\alpha \leq 0.05$  between traumatic events and PTSD ( $r= 0.276$ , P value = 0.000), resilience ( $r= 0.167$ , P value= 0.001), and PTG ( $r= 0.187$ , P value= 0.000). The results also showed that there was statistically significant negative relationship at  $\alpha \leq 0.05$  between PTSD and resilience ( $r= 0.-308$ , P value= 0.000), but the relationship was insignificant between PTSD and PTG ( $r= 0.005$ , P value= 0.927), and there was significant relationship between resilience and PTG ( $r= 0.259$ , P value= 0.000).

## **4.7 Discussion**

This chapter presents discussion of the study results. The findings are discussed and compared with previous studies and literature. The chapter also presents recommendations that will highlight the way for future studies and decisions to act toward reducing the negative impact of trauma and put strategies for reinforcing the positive outcomes of traumatic experiences.

Frequent wars and the siege imposed against GS for more than 10 years exposed the people of GS to variant types of traumas that affect their mental well-being due to the aftermath consequences of these traumatic experiences. This study was conducted two years after the last war against GS which lasted for 51 days during the summer in 2014. This war was the most aggressive one with more than 2000 persons killed and more than 15000 injured, besides demolishing and bombing of thousands of houses and mass destruction of infrastructure facilities. This study aimed to identify the degree of exposure to traumatic events, level of PTSD, resilience, and PTG among adolescents in GS. The sample of the study consisted of 400 adolescents from the governmental secondary schools (200 males and 200 females) in GS. Their age ranged between 15 – 18 years old.

### **4.7.1 Traumatic events**

The results of the study showed that the most frequent traumatic events reported by study participants included hearing the sounds of the bombing on different areas of the GS, listening to the sound of drones constantly, and hearing the death of a friend or neighbor during the war, witnessing high-rise apartment towers bombing and flattened, and witnessing pictures of wounded and the martyrs on TV. Similar results found by Altawil et al., (2008) which found that that the most prevalent types of trauma exposure were as follows: 99% of them had suffered humiliation, 97% had been exposed to the sound of



explosions/bombs, 85% had witnessed a martyr's funeral and 84% had witnessed shelling by tanks, artillery, or military planes. In addition, Thabet et al., (2014) study in GS found that 97% of youth had heard the sound of bombs and explosions and 84% had witnessed shelling from tanks, artillery, or military planes, and 73% of kids have also personally witnessed political violence. Another study carried out in GS among children aged 10 – 19 years old reported that 94.6% of study participants had witnessed funerals, 83.2% witnessed shooting, 66.9% saw injured or dead who were not relatives, and 61.6% saw family members injured or killed (Quota and El Sarraj, 2004). Furthermore, the study of Abu Sultan (2012) found that watching mutilated bodies on TV was the highest prevailing traumatic experience (92.73%). Thabet et al (2014) study that showed that the traumatic experiences reported by the adolescents in order were: 90.8% watched mutilated bodies on TV, 88.5% heard shelling of the area by heavy artillery, 86.6% saw the signs of shelling on the ground, and 86.0% heard the sonic sounds of the jetfighters. Previous study by Thabet et al., (2009) found that the most common reported traumatic events reported by Palestinians were watching mutilated bodies and wounded people on TV (97.1%), hearing the sonic sounds of the jetfighters (94.7%), and witnessing the signs of shelling on the ground (93.2%).

In addition, the results indicated that 13% of adolescents reported mild traumatic events, 39.8% reported moderate traumatic events, and 47.3% reported severe traumatic events. This result indicated that the majority of adolescents experienced moderate and severe traumas, which revealed the hard situation during the war and the frequent exposure to many traumatic events. Our results agreed with the study carried out by Al Ibwwaini (2015) which found that 10.6% of adolescents in GS reported mild traumatic events, 40.9% reported moderate traumatic events, and 48.5% reported severe traumatic events. Moreover, Thabet et al., (2014) found that Palestinian children reported from 2 - 30

traumatic events with a mean of total 13.3 traumatic events. In addition, Altawil et al., (2008) reported that every Palestinian child had been exposed to at least three traumatic events between 2000 - 2005. In addition, Khamis (2005) study indicated that 54.7% of Palestinian children aged 12-16 years experienced at least one lifetime trauma. Also a study conducted by Arafat and Boothby (2003) found that 48% of children had experienced or witnessed political violence, and 93% reported feeling unsafe and vulnerable to attack.

The results of our study also indicated that there were no significant differences in traumatic experience related to sociodemographic variables including gender, age, place of residency, family size, family income, fathers' job and fathers' level of education. These results revealed that adolescents in GS experience similar traumatic events regardless of sociodemographic factors. The researcher believes that these results are logic because GS is a small geographic area without major gaps in living conditions, and all the inhabitants of the strip were exposed to the same hard situation during the war.

Our results were consistent with the results obtained by Al Ibwwaini study (2015) which found that there were no statistically significant differences in traumatic experiences related to age, place of residence, family monthly income, and number of siblings. Also, the study carried out by Ghannam (2012) showed no relationship between trauma experience and demographic variables as gender, age, and place of residence. On the other hand, different results were obtained by Thabet et al., (2014) which found that there were significant differences in traumatic events between boys and girls due to Gaza War in favor of boys, and the study of Bodvarsdottir and Elklit (2007) found higher rate of exposure to traumatic events in boys compared to girls. In addition, Al Ibwwaini study (2015) found that boys reported more severe traumatic events than girls.

#### **4.7.2 Posttraumatic stress disorder**

Exposure to traumas leads to aftermath symptoms of PTSD manifested with difficulty in sleeping, detached behavior, depression, substance abuse and problems of memory and cognition. Adolescents living in GS had witnessed continuous conflicts including violence and wars in the recent years, and the majority of them were affected by these conflicts in different ways; either by loss of family member or relatives, sustained an injury, loss of housing due to bombing by air raids, and the hardest times were during the 51 days war, in which all the Gaza people felt unsafe and were in danger.

The results of our study showed that the mean score of total PTSD was 38.6, which reflected that adolescents have moderate level of PTSD. Moreover, 27.5% of adolescents showed no PTSD symptoms, 38.0% showed at least one criteria of PTSD (B or C or D), 24.0% showed partial PTSD, and 10.5% showed full criteria of PTSD.

A study carried out by Al Ibwwaini study (2015) showed that 20.1% of the sample showed no PTSD symptoms, 31.1% showed at least one criteria of PTSD, 29.7% showed partial PTSD, and 19.1% showed full criteria of PTSD. Another study carried out among adolescent refugees in GS found that 52.6% of study participants had moderate PTSD and 23.9% had severe PTSD symptoms (Thabet et al., 2004). Earlier study conducted in GS found that 59.3% of children who have their homes demolished had symptoms of PTSD (Thabet et al., 2002). Furthermore, a study carried out in GS by Quota, (2003) found that 54% of study participants reported PTSD reactions, 33.5% reported moderate reactions, and 11% reported mild reactions. Furthermore, a study examined the prevalence of PTSD among Palestinian children aged 10 – 19 years, living under severe conditions indicated that 32.7% of the children developed acute PTSD symptoms that need psychological intervention, while 49.2% suffered from moderate level of PTSD symptoms (Quota and El

Sarraj, 2004). Another study carried out in GS found that 19.59% of martyrs' wives have mild symptoms, 55.27% have moderate symptoms and 22.61% have severe symptoms (Al-Rekeb, 2011). In addition, a study examined the impact of conflict on Palestinian children during the period September 2000 – October 2003, found that 33% had acute levels of PTSD, 49% had moderate levels and 15.6% had low levels of PTSD. In hot areas, 55% of the children have acute levels of PTSD, 35% moderate levels, and 9% low levels (Qouta, 2005). Earlier study by Afana et al., (2002) found that the overall prevalence of PTSD symptoms was 29%. Furthermore, Thabet et al., (2014) showed that 11.8% of adolescents reported no PTSD, 24.2% reported less than two criteria of symptoms, and 34.31% reported symptoms of partial PTSD, while 29.8% reported symptoms meeting criteria for full PTSD. In addition, Abdeen et al., (2008) found that 35% in the WB and 36% GS reported symptoms of PTSD. Also, the study conducted by Khamis (2005) showed that 34.1% of Palestinians were diagnosed as having PTSD symptoms.

Analysis of PTSD symptoms in relation to sociodemographic variables showed that girls had higher symptoms of intrusion and arousal, but there were no differences in avoidance symptoms and total PTSD between boys and girls. The results also showed no significant differences in PTSD symptoms related to age, also, there were no significant differences in total PTSD, intrusion and avoidance symptoms related to place of residency, but adolescents from North Gaza showed higher arousal symptoms. In addition, there were no significant differences in PTSD related to family size, family income, fathers' job and fathers' level of education. The researcher attributed these results to the fact that all the people in GS were exposed to same dangers during the war regardless of their sociodemographic variables, and all the people live the same hard circumstances as a result of long-term blockade of the strip with long hours without electricity, high rates of inflation and poverty, and closure of border crossings and inability to free travelling.

Our results were consistent with the results obtained by Al Ibwwaini study (2015), which found that there were no statistically significant differences in total PTSD scores and all subscales related to gender, age, family monthly income, and number of siblings. Also, Thabet et al., (2015) study showed no statistically significant differences between boys and girls in PTSD symptoms.

In contrast, different results were obtained by Bleich et al., study (2003) which found a higher rates of PTSD among women compared to men. Also, Punamaki et al., (2005) found a higher PTSD rates among men than women. Our results also were inconsistent with de Jong et al., study (2001) which showed that women had higher rates of PTSD.

#### **4.7.3 Resilience**

Resilience concerns with adapting well in the face of adversity, trauma, tragedy, and threats. The results of this study indicated that adolescents have good adaptation to the hard circumstances that they live in, which was reflected in their response on resilience questionnaire, which showed that adolescents have above moderate level of resilience ( $m=80.480$ ). Our results were consistent with Al Ibwwaini study (2015) which showed that the mean score of total resilience was 82.15. In addition Al-Halag study (2011) found that resilience among children was high. Another study conducted by Shagora (2012) reported high level of total resilience among university students in GS. Moreover, and boys had higher resilience compared to girls, but there were no significant differences in level of resilience related to family members, family income, and parents' level of education. Dokhan and Al Hajar (2005) found that resilience level was 77.3% among university students in GS, and Hejazi and Abu Ghali (2008) found that resilience level was 70%.

The results also showed that there were no significant differences in level of resilience related to gender, age, family size, family monthly, fathers' job, and fathers' level of education, but for place of residency, adolescents from Khanyounis and Rafah had higher

level of resilience compared to other areas. The study conducted by Sarwar et al., (2010) found that boys had higher levels of resilience than girls. Also, Al Ibbwaini study (2015) found no significant differences in total resilience related to gender, age, place of residency, family size, and family income, but differences existed in some subscales.

In addition, Thabet and Abadsa study (2013) found that boys had higher resilience levels than girls, and people living in North Gaza had lower resilience than people living in Gaza and Khanyounis. Also, El-Sarraj et al., (2011) study found that boys had higher resilience levels than girls, but Ghannam study (2012) showed that there were no significant differences in total resilience and subscales related to gender, age, and place of residency, while there were significant differences related to family size. Also, Punama (2011) study found no significant differences in resilience according to place of residency.

#### **4.7.4 Posttraumatic growth**

Departing from a deprivation approach to the study of trauma, a small body of literature has recently emerged that examines positive, rather than negative, post-trauma changes (Shakespeare-Finch et al., 2003). PTG does not occur as a direct result of trauma, but it is the individual's struggle with the new reality in the aftermath of trauma that determines the extent to which PTG occurs, and that depends mainly on personality characteristics.

The results of our study indicated positive changes among study participants evidenced by moderate level of PTG with mean score 46.005 (SD= 15.323), appreciation of life mean score 6.547 (SD= 2.792), spiritual change mean score 5.252 (SD= 2.244), personal strength mean score 8.042 (SD= 3.276), relating to others mean score 15.302 (SD= 5.782), and new possibilities mean score 10.860 (SD= 4.262).

The study conducted by Shakespeare-Finch et al., (2003) reflected that the experience of occupational trauma can act as a catalyst for significant positive post-trauma changes.

Another study reported that at one year following the earthquake, prevalence rate for posttraumatic growth was 56.8% (Xu and Liao, 2011).

In addition, our results indicated no significant differences in levels of resilience related to gender, place of residency, family size, family income, fathers' job, and fathers' level of education, but adolescents aged 15 – 16 years had higher level of resilience. Comparing our results with previous studies reflected variation in some results. The study carried out by Kimhi et al., (2010) found that females reported lower levels of PTG compared to males. Another study conducted by Thabet et al., (2015) found no gender differences in PTG among nurses in GS, but nurses with high income reported higher PTG especially in relating to others. Another study conducted by Xu and Liao (2011) found that prevalence rate for PTG was 51.1%, and that predictors of PTG were being female, younger age, higher level of education.

#### **4.7.5 Relationship between traumatic experience, PTSD, resilience, and PTG**

Exposure to trauma is associated with PTSD and other emotional disorders. The results of our study showed that there was statistically significant relationship between traumatic events and PTSD, resilience, and PTG. Also there was statistically significant relationship between PTSD and resilience, but the relationship was insignificant between PTSD and PTG. Also, there was statistically significant relationship between resilience and PTG.

Previous studies reported different results concerning the association between exposure to traumatic events and individual reaction to the event. Comparing our results with other studies revealed variant results.

A study conducted in GS found that 31.1% of adolescents showed at least showed at least one criteria of PTSD, 29.7% showed partial PTSD, and 19.1% showed full criteria of PTSD (Al ibwwaini, 2015).

A study was conducted in the GS, in areas under ongoing shelling and other acts of military violence, found that both children and parents reported a high number of experienced traumatic events, and high rates of PTSD, and trauma exposure was significantly associated with total and subscales PTSD scores. In contrast, trauma exposure was significantly associated with PTSD intrusion symptoms in parents (Thabet et al., 2008). Another study carried out in Sri Lanka indicated a curvilinear relationship between peri-traumatic dissociation and PTG and between posttraumatic stress symptoms and PTG among university students who had experienced a traumatic life event (McCaslin et al., 2009). Furthermore, *Karunakara et al.*, (2004) reported that witnessing of traumatic events significantly predicted PTSD. Another longitudinal study conducted among Israelis reported that growth was a response to distress, and that initial elevated PTSD in 2003 predicted subsequent elevated PTG in 2008, in addition, individuals with PTSD had higher PTG levels across times than resilient individuals who did not endorse PTSD symptoms (Dekel et al., 2012). Another study showed that trauma increased PTSD and growth levels, whereas resilience was associated positively with growth and negatively with PTSD (Bensimon, 2012). In addition, Duan et al., (2015) indicated that trauma was positively and significantly correlated with PTSD, trait resilience was positively associated with virtues and PTG; The relationship between trait resilience and PTG was moderated by PTSD type (non-PTSD group vs. PTSD group). Also, Jin et al., (2014) found a positive association between PTG and PTSD. Another study carried out in GS found a significant relationship between traumatic events and PTSD as well as between traumatic events and PTG (Thabet et al., 2015). Furthermore, another study conducted in GS reported that 12.5% of study participants evaluated their life as good, and 27.1% said they enjoy their life, and that Palestinians used religious ways of coping with the stress and trauma, and 98% said God is helping all the time, they were proud of their achievements, and had strong sense of



purpose in their life. There were statistically significant positive relationship between stress due to the siege and closure and traumatic events, psychological symptoms, depression, somatization, and anxiety. However, there was statistically significant negative relationship between total score of stress and the total resilience factor and subscales, and quality of life (Thabet and Thabet, 2015).

In contrary, other studies found nonsignificant relationship between PTSD and PTG in an Australian sample of adults (Shakespeare-Finch and Dassel, 2009). Another study carried out in the aftermath of the political violence in Peru between 1980–2000, found that resilience did not contribute to the overall variance of post-traumatic stress related symptoms (Suarez, 2013).

People who experience traumatic events often have symptoms and problems in the aftermath, but seriousness and severity of symptoms and problems depend on many personal and social factors. In our study, analysis of personal and social factors that may contribute to prevalence of traumatic events, PTSD, resilience, and PTG reflected that some factors affected these variables in different ways. The results of our study showed no significant differences in exposure to traumatic events and prevalence of PTSD related to gender, class, type of residency, place of residency, family size, monthly income, fathers' and mothers' job, fathers' and mothers' level of education. The results also showed no significant differences in levels of resilience related to gender, class, type of residency, family size, family income, fathers' and mothers' job, and fathers' and mothers' education, but differences were statistically significant in place of residency (participants from East Khanyounis had significant higher resilience). In addition, there were no significant differences in prevalence of PTG related to gender, type of residency, place of residency, family size, family income, fathers' and mothers' job, and fathers' education, while significant differences existed in relation to class (students from the 12<sup>th</sup> class had

significant lower PTG), and mothers' education (students of mothers who had university and postgraduate education had lower levels of PTG). Generally, our results revealed that personal and social factors have similar effects on prevalence of traumatic events, PTSD, resilience levels, and PTG. These results could be attributed to fact that there are no major variations in sociodemographic factors between different areas of GS which is a very small area, and people of GS share approximately similar culture, live in similar hard circumstances, exposed to wars, destruction of infrastructure, bombing and house demolishing, and these conditions would make all the people suffer in all parts of the Strip. Comparing of our results with previous studies reflected variations in the impact of sociodemographic factors. *A study conducted by Karunakara et al., (2004)* showed that sex, age, education and occupation were significantly associated with the development of PTSD symptoms. Shakespeare-Finch and Dassel, (2009) reported that 9.3% of their sample presented with PTSD which was predicted by past exposure to violence, current life stress, age, and schooling. In addition, Thabet et al., (2015) reported a range of traumatic events, and both PTSD and PTG scores were associated with community rather than work-related traumas. Another study investigated the stressors in GS due to siege and wars that may contribute to psychological symptoms, quality of life, and resilience, found several stress factors including feelings of being living in a big prison, cannot finish some construction and repair work in their house due to shortage of cement and building materials, prices were sharply increased. Also, males had significantly experienced severe traumatic events than females, people live in cities reported more traumatic events than those live in a village or a camp, females had higher level of quality of life. This study reflected that siege and blockade was very stressful and had negative influence on families (Thabet and Thabet, 2015).

## **4.8 Conclusion**

This study was conducted two years after the last 51-days war against Gaza Strip on July – August 2014. The study focused on adolescents from secondary schools in the strip. The study included 400 school students (200 males and 200 females). This study was the first one that included 4 variables (traumatic experiences, PTSD, resilience, and PTG), and the study examined the relationship between these variables.

The results reflected that adolescents experienced a variety of traumatic events, and have moderate to severe PTSD symptoms. In addition, the level of resilience and PTG was above moderate. The study concluded that people who go through traumatic experiences often have symptoms and problems afterward. How serious the symptoms and problems are depends on many things including a person's life experiences before the trauma, natural ability to cope with stress, how serious the trauma was, and what kind of help and support a person gets from family, friends, and professionals after the trauma.

Although individuals may feel overwhelmed by their traumatic experiences, it is important to remember that there are other positive aspects of life. There are helpful mental health resources that will help those people come-back again and have hopes for the future.

## **4.9 Recommendations**

In the light of study results, the researcher recommends the following:

- The need for extensive community mental health centers to improve the people awareness about the nature and effects of traumatic experiences, and increase understanding of adaptive coping strategies to overcome its negative impact on individuals.
- The need to provide protective and therapeutic interventions for adolescents exposed traumatic events.
- Use the media resources to encourage victims of psychological trauma to get assistance and support from mental health counselors and professionals.
- The need for establishing mental health programs and interventions in the schools to deal with psychological and emotional problems among students.
- The need to include psychoeducation in the school curriculum to enable students acquire knowledge about trauma and skills about spiritual and coping mechanisms.

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## Annexes

### Annex (1)

#### Traumatic Event Checklist

بسم الله الرحمن الرحيم

أخي الفاضل / أختي الفاضلة:

السلام عليكم ورحمة الله وبركاته

بين أيديكم استبيانات خاصة برسالة الماجستير التي أقوم بإجرائها وهي تهدف إلى التعرف على العلاقة بين التعرض للمواقف الصادمة وكل من كرب ما بعد الصدمة، المرونة النفسية والنمو النفسي. يرجى الاستجابة على جميع فقرات الاستبيانات بشكل صادق، مع العلم أنه لا توجد اجابات خاطئة ولكن اجابتك تعبر عن رأيك الشخصي، كما أن المعلومات التي سيتم جمعها سوف تستخدم لأغراض البحث العلمي فقط، ونلفت انتباهك بأن كتابة اسمك الشخصي اختياري وغير ملزم.

الباحث:

مراد خليل دواس

#### البيانات الشخصية

اسم المدرسة: .....

الصف :  العاشر  الحادي عشر  الثاني عشر

العمر: .....

الجنس :  ذكر  أنثى

نوع السكن:  ملك  إيجار  معسكر  مع العائلة

عدد غرف المنزل: .....

العنوان:  شمال غزة  شرق غزة  غرب غزة  المنطقة الوسطى  شرق خان يونس  خان يونس  رفح

عدد الأخوة:  4 وأقل  من 5-7  8 وأكثر

دخل الأسرة الشهري:  أقل من 1200 شيكل  من 1201-2000 شيكل  من 2001-3000 شيكل  أكثر من 3000 شيكل

عمل الأب:  لا يعمل  عامل صناعي  يعمل ويتقاضى مرتب  لا يعمل ويتقاضى مرتب  تاجر  أخرى حدد: .....

عدد سنوات تعليم الأب: .....

المؤهل التعليمي للأب:  لم يتعلم  ابتدائي  إعدادي  ثانوي  دبلوم  جامعي  دراسات عليا

عدد سنوات تعليم الأم: .....

عمل الأم:  ربة بيت  عاملة  تاجرة  تعمل ويتقاضى راتب  لا تعمل ويتقاضى راتب  أخرى حدد: .....

المؤهل التعليمي للأم:  لم تتعلم  ابتدائي  إعدادي  ثانوي  دبلوم  جامعي  دراسات عليا

الاسم (اختياري)..... التوقيع ..... التاريخ.....

**First: Socio-demographic data**

**Age ...**  Male  Female

**Type of residence**  Own  Rented  Camp  With family

**Place of residence**  North Gaza  Gaza  Middle area  Khan Younis  Rafah area

**Number of siblings ...**  4 or less  5-7  8 and more

**Family monthly income**  Less than 1200 NIS  1201-2000 NIS  2001-3000 NIS

More than 3000 NIS

**Father's job**  Unemployed  Skilled worker  Civil employee and working  Civil employee not at work and getting salary  Merchant  Other...

**Father education**  Not educated  Preparatory  Elementary  Secondary  Diploma  University  Post graduate

**Mother's job**  House wife  Skilled worker  Merchant  Civil employee and working  Civil employee not at work and getting salary

**Mother's education**  Not educated  Preparatory  Elementary  Secondary  Diploma  University  Post graduate

**Name** (selective): ..... **Signature**: ..... **Date**: .....

## مقياس الخبرات الصادمة الناتجة عن الحرب علي غزة-2014

إعداد أ. د عبد العزيز موسى ثابت

أستاذ الطب النفسي جامعة القدس

عزيزي/تي: أمامك مجموعة من البنود التي توضح أنواع الخبرات الصادمة (الأحداث المؤلمة) التي قد يتعرض لها أي أنسان في الظروف الصعبة مثل الحروب, الاحتلال, الكوارث الطبيعية والتي قد تشمل بعض ما تعرضت له خلال الحرب علي غزة-2014. نرجو أن تضع علامة صح في الخانة الصحيحة.

م	الحدث أو الخبرة الصادمة	نعم	لا
1	سماعك لاستشهاد صديق أو جار لك أثناء الحرب		
2	سماعك لاستشهاد أب أو أخ أو أخت أو قريب لك أثناء الحرب		
3	سماعك لأصوات القصف على المناطق المختلفة من قطاع غزة		
4	سماعك لصوت الزنانة باستمرار		
5	مشاهدة استشهاد صديق لك أمامك		
6	مشاهدة استشهاد أب أو أخ أو أخت أو قريب لك أمامك		
7	مشاهدة إصابة صديق لك أمامك بالشظايا أو الرصاص		
8	مشاهدة إصابة أب أو أخ أو أخت أو قريب لك أمامك بالشظايا أو الرصاص		
9	مشاهدة بيئكم و هو يهدم ، و يدمر من القصف أو الجرافات		
10	مشاهدة بيت جيرانكم و هو يهدم ، و يدمر من القصف أو الجرافات		
11	مشاهدة أب/أخ/أخت/ أم/قريب لك وهو يعتقل أمامك		
12	مشاهدة صديق وهو يعتقل أمامك من قبل الجيش		
13	مشاهدة صور الجرحى و الأشلاء والشهداء في التلفزيون		
14	مشاهدة الابراج السكنية العالية و هي تقصف امام عينك و تسوى بالأرض		
15	مشاهدة عمليات الاغتيالات من قبل الجيش لأشخاص في الشارع		
16	تعرضك للإصابة الجسدية نتيجة للحرب وفقدانك أحد أطرافك		
17	تعرضك للإصابة بشظية قنبلة أو صاروخ أو الرصاص أثناء الحرب		
18	تعرضك للاحتجاز في البيت وللحرمان من الماء والأكل والكهرباء		
19	تعرضك لإطلاق النار بقصد التخريف		
20	تعرض أغراضك الشخصية في المنزل للتدمير و التدمير والنهب من الجيش		
21	تهديدك للتهديد شخصياً بالقتل		
22	تهديدك للتهديد بقتل أحد أفراد الأسرة أمام عينيك		
23	تعرضك للخطر الشديد باستخدامك كدرع بشري للقبض على جار لكم		
24	تعرضك لترك المنزل مع عائلتك وأقاربك و النزوح لمناطق أخرى		
25	تعرضك للاعتقال من الجيش أثناء الاجتياح		
26	تعرضك لاستنشاق غازات كريمة ناتجة عن القصف		
27	تعرضك للتهديد بالتليفون لترك المنزل بغرض قصفه		
28	تعرضك أو أحد أفراد أسرتك للتهديد بترك البيت في المناطق الحدودية والتوجه لوسط المدينة عن طريق منشورات من الطائرات		

### Traumatic Events checklist

No.	Item	Yes (1)	No (2)
1	Hearing killing of a friend		
2	Hearing killing of a close relative		
3	Hearing shelling of the area by artillery		
4	Hearing the loud voice of Drones		
5	Witnessing killing of a friend		
6	Witnessing killing of a close relative		
7	Witnessing shooting of a friend		
8	Witnessing shooting of a close relative		
9	Witnessing firing by tanks and heavy artillery at own home		
10	Witnessing firing by tanks and heavy artillery at neighbors' homes		
11	Witnessing arrest of a close relative by the army		
12	Witnessing arrest of a friend		
13	Watching mutilated bodies in TV		
14	Witnessing assassination of people by rockets		
15	Witnessing bombardment and destruction of big buildings		
16	Physical injury due to bombardment of your home		
17	Shot by bullets, rocket, or bombs		
18	Deprivation from water or electricity during detention at home		
19	Threaten by shooting		
20	Destroying of your personal belongings during incursion		

21	Personal threat if killing by the army		
22	Threaten of killing of your closed relative in front of you		
23	Threatened with death by being used as human shield by the army to move from one home to home		
24	Being arrested during the land incursion		
25	Forced to leave you home with family members due to shelling		
26	Inhalation of bad smells due to bombardment		
27	Threaten by telephone to leave the home for bombardment of home		
28	Receiving pamphlets from Airplane to leave your home at the border and to move to the city centers		



## Annex (2)

### PTSD Scale

#### مقياس كرب ما بعد الصدمة للمراهقين

أ.د. عبد العزيز موسى ثابت

أستاذ الطب النفسي - جامعة القدس

عزيزي: أمامك مجموعة من الأسئلة التي تقيس ردود الفعل على الأحداث الصعبة في أوقات الحرب في 2014 التي قد يتعرض لها من هم في سنك. نرجو أن تضع علامة صح في الخانة الصحيحة:

الرقم	البند	لا	قليلاً	أحياناً	كثيراً	غالباً
1	هل تعاودك صور وأحداث وذكريات بما تعرضت له أثناء الحرب.					
2	هل تحلم أحلام مزعجة تذكرك بالحرب.					
3	هل ينتابك شعور بأن ما تعرضت له في فترة الحرب سوف يحدث الآن مرة أخرى (أو تلعب بأشياء تذكرك بالحرب)					
4	هل تصاب بحالة من الضيق الشديد عند التعرض لأي موقف صعب خارجي أو داخلي من نفسك بذكرك بما تعرضت له أثناء الحرب					
5	هل تصاب بحالة من القلق والعصبية والتوتر (على شكل سرعة في ضربات القلب، ورعشة في اليدين، عرق غزير) عند تعرضك لأي موقف خارجي صعب أو داخلي من نفسك بذكرك بما تعرضت له أثناء الحرب					
6	هل تتجنب الأفكار، والأحاديث، والإحساسات التي تذكرك بالخبرات الصادمة التي تعرضت لها أثناء الحرب					
7	هل تتجنب الأشخاص والأماكن، والمواقف التي تذكرك بالخبرات الصادمة التي تعرضت لها أثناء الحرب					
8	أصبحت غير قادر على تذكر أشياء مهمة تتعلق بفترة الحرب وما تعرضت له من مواقف صادمة					
9	منذ تعرضت للصدمة هل قل بشكل واضح اهتمامك بالمشاركة في النشاطات الاجتماعية، والمدرسية، والمشاركات السياسية المختلفة					
10	هل تشعر بالغيرة والانفصال عن حورك وأنه ليس لك بهم أي صلة					
11	هل أنت عاجز على حب الآخرين من حورك					
12	هل تشعر بأنه ليس لديك مستقبل مثل أن تكمل تعليمك وتزوج وتعيش حياة طويلة					
13	هل تشكو من صعوبة في النوم أو البقاء نائماً					
14	هل تشعر بالتوتر وتنتابك نوبات من الغضب الشديد					
15	هل لديك صعوبات في التركيز أثناء تأدية واجباتك المدرسية					
16	هل تشعر بأنك دائماً متيقظ ومتوقع للأسوأ وفي حالة انتظار دائم لما سيحدث					
17	هل تجفل ووتتقزز بشكل غير طبيعي لسماحك أقل صوت مزعج					

## PTSD Scale

Here is a list of problems people sometimes have after very bad things happen. Please **THINK** about the bad thing that happened to you. Then, **READ** each problem on the list carefully. **CIRCLE ONE** of the numbers (0, 1, 2, 3 or 4) that tells how often the problem has happened to you. Use the **Rating Sheet** on Page 3 to help you decide how often the problem has happened.

### PLEASE BE SURE TO ANSWER ALL QUESTIONS

	None	Little	Some	Much	Most
Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions.	0	1	2	3	4
Recurrent distressing dreams of the event	0	1	2	3	4
Acting or feeling as if the traumatic event were recurring	0	1	2	3	4
Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event	0	1	2	3	4
Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event	0	1	2	3	4
Efforts to avoid thoughts, feelings, or conversations associated with the trauma	0	1	2	3	4
Efforts to avoid activities, places, or people that arouse recollections of the trauma	0	1	2	3	4
Inability to recall an important aspect of the trauma	0	1	2	3	4
Markedly diminished interest or participation in significant activities	0	1	2	3	4
Feeling of detachment or estrangement from others	0	1	2	3	4
Restricted range of affect (e.g., unable to have loving feelings)	0	1	2	3	4
Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)	0	1	2	3	4
Difficulty falling or staying asleep					
Irritability or outbursts of anger					
Difficulty in concentration					
Hyper vigilance (On edge been easily distracted or had to stay)					
Exaggerated startle response					

Annex (3)

Resilience scale for adolescents

مقياس الصلادة النفسية للمراهقين

ترجمة وتقتين: أ.د. عبد العزيز موسى ثابت أستاذ الطب النفسي- جامعة القدس

تعليمات:

أمامك عدد من العبارات التي تمثل رؤيتك في مواجهة عدد من المواقف ، والمطلوب منك: ان تقرا كل عبارة بعناية ثم تضع علامة ( √ ) في احدى الخانات المقابلة للعبارة، نأمل إلا تترك عبارة واحدة دون أن تجيب عليها مع ملاحظة انه لا توجد عبارة صحيحة وأخرى خاطئة تعتبر صحيحة عندما تعبر عن حقيقة ما تشعر به تجاه المعنى الذي تتضمنه العبارة.

الرقم	البند	كل الوقت	معظم الوقت	أحياناً	قليلاً	أبداً
1	أتعاون مع ممن هم حولي					
2	انهي ما بدأت عمله					
3	الناس يعتقدون بأنني مرح					
4	احل مشاكلي بدون تناول أدوية او كحول					
5	اعرف مصادر قوتي الذاتية					
6	اشعر بالدعم بواسطة أصدقائي					
7	أصدقائي يقفوا علي جانبي وقت الضيق					
8	اعرف كيف أتصرف في المواقف الاجتماعية المختلفة					
9	اعرف إلي أين اتجه للحصول علي المساعدة					
10	لدي الفرص لتطوير مهاراتي الوظيفية					
11	أعطيت الفرصة المناسبة كي اكبر و أصبح رجلا					
12	أهلي يراقبونني باستمرار					
13	أهلي يعرفون كل شيء عني					
14	اكل كفاية معظم اليوم					
15	أتكلم مع أهلي فيما أحس به					
16	أهلي يقفوا معي في الأوقات الصعبة					
17	اشعر بالأمان في وجود أهلي					
18	استمتع بعادات أهلي و تقاليدهم					
19	الإيمان والوازع الديني هي مصدر القوة لدي					
20	أشارك في النشاطات الدينية المنظمة					
21	اعتقد بأنه من المهم أن أخدم من هم حولي					
22	أنا فخور بانتماءاتي و خلفيتي العائلية					
23	افتخر بمواطنتي					
24	استمتع بعادات مجتمعي					
25	يتم معاملتي بالعدل في مجتمعي					
26	لدي أشخاص اعنتني بهم					
27	الحصول علي التعليم مهم بالنسبة لي					
28	اشعر بالانتماء لمدرستي					

## Youth Resilience Measure

No.	Item	All the time	Most of the time	Sometimes	Too little	Never
<b>Individual factor</b>						
<b>Personal skills</b>						
1	I cooperate with people around me					
2	I aim to finish what I start					
3	People think I am fun to be with					
4	I solve problems without drugs or alcohol					
5	I am aware of my own strengths					
<b>Peer component</b>						
6	I feel supported by my friends					
7	My friends stand by me during difficult times					
<b>Social skills</b>						
8	I know how to behave in different social situations					
9	I know where to go to get help					
10	I have opportunities to develop job skills					
11	I am given opportunities to become an adult					
<b>Relationship with caregiver</b>						
<b>Physical relationship with caregiver</b>						
12	My caregivers watch me closely					
13	My caregivers know a lot about me					
<b>Psychological relationship with caregiver</b>						

14	I eat enough most days					
15	I talk to my caregivers about how I feel					
16	My caregivers stand by me during difficult times					
17	I feel safe when I am with my caregivers					
18	I enjoy my caregivers' cultural and family traditions					
<b>Contextual components</b>						
<b>that facilitate a sense of belonging in youth,</b>						
<b>Spiritual beliefs</b>						
19	Spiritual beliefs are a source of strength for me					
20	I participate in organized religious activities					
21	I think it is important to serve my community					
<b>culture (5 items),</b>						
22	I am proud of my ethnic background					
23	I am proud of my citizenship					
24	I enjoy my community's traditions					
25	I am treated fairly in my community					
26	I have people I look up to					
<b>Educational items</b>						
27	Getting an education is important to me					
28	I feel I belong at my school .					

Annex (4)

Post traumatic Growth Inventory

مقياس التطور الإيجابي بعد الصدمات النفسية

إعداد: أ. د. عبد العزيز موسى ثابت

أستاذ الطب النفسي- جامعة القدس

عزيزي/ عزيزتي

فيما يلي مجموعة من الأسئلة التي نتناول القوة و التطور للأشخاص الذين يتعرضون لازمات و صدمات نفسية مثل الحرب, و العنف, والحوادث المختلفة. برجاء وضع علامة (√) في الخانة التي تراها تناسبك. علما بأن الإجابات هي على النحو التالي:

0 = لا 1 = لقد جربت ذلك بطريقة بسيطة بعد الأزمة , 2 = لقد جربت ذلك بطريقة متوسطة بعد الأزمة, 3 = لقد جربت ذلك بطريقة كبيرة بعد الأزمة, 4 = لقد جربت ذلك بطريقة كبيرة جدا بعد الأزمة.

البنود	لا	درجة بسيطة	درجة متوسطة	درجة كبيرة	درجة كبيرة جدا
1. تغيرت أهدافي في الحياة بعد الحرب مقارنة لما هي عليه قبل الحرب					
2. اقدر قيمة حياتي أكثر من الأول					
3. بدأت اهتم بأشياء جديدة في الحياة					
4. أصبحت تقني في نفسي أكثر من قبل					
5. أصبحت أتفهم الأمور الروحية و الدينية أفضل من قبل					
6. عرفت بأنني استطيع الاعتماد على الآخرين حولي عندما أقع في مشكلة					
7. اخترت طريق (مسار) جديد في حياتي					
8. أشعر بالقرب من الآخرين					
9. أصبحت قادرا على التعبير عن مشاعري أكثر من قبل الحرب					
10. أعرف بأنني أصبحت قادرا بطريقة أفضل على التعامل مع مشاكل					
11. أستطيع أن أفعل الأشياء في حياتي بطريقة جيدة بعد الحرب					
12. أقبل بشكل أفضل ما انتهت إليه الأمور بعد الحرب					
13. اقدر كل يوم جديد في حياتي أكثر من الأول					
14. أصبحت لدي فرص جديدة في الحياة لم تكن موجودة من قبل					
15. أصبحت لدي عاطفة و حب تجاه الآخرين					
16. أحاول أن أقيم أفضل العلاقات الاجتماعية مع الآخرين					
17. أحاول أن أغير الأشياء في الحياة التي تحتاج للتغيير					
18. أصبح أيماني أعمق بالله					
19. اكتشفت بأنني أكثر قوة مما كنت أعتقد					
20. تعلمت كثيراً كيف أن الناس حولي رائعين					
21. تقبلت أكثر من قبل بأنني أحتاج الناس من حولي					

## Posttraumatic Growth Inventory (PTGI)

(Tedeschi and Calhoun, 1996)

No.	Item	0	1	2	3	4
1	I changed my priorities about what is important in life.					
2	I have a greater appreciation for the value of my own life.					
3	I developed new interests.					
4	I have a greater feeling of self-reliance.					
5	I have a better understanding of spiritual matters.					
6	I more clearly see that I can count on people in times of trouble.					
7	I established a new path for my life.					
8	I have a greater sense of closeness with others.					
9	I am more willing to express my emotions.					
10	I know better that I can handle difficulties.					
11	I am able to do better things with my life.					
12	I am better able to accept the way things work out.					
13	I can better appreciate each day.					
14	New opportunities are available which wouldn't have been otherwise.					
15	I have more compassion for others.					
16	I put more effort into my relationships.					
17	I am more likely to try to change things which need changing.					
18	I have a stronger religious faith.					
19	I discovered that I'm stronger than I thought I was.					
20	I learned a great deal about how wonderful people are.					
21	I better accept needing others.					

Annex (5)

Approval letter from Al Quds University

Al-Quds University  
Jerusalem  
School of Public Health

جامعة القدس  
القدس  
كلية الصحة العامة

التاريخ : 2016/4/2  
الرقم: ك ص ع-غ / 2016/

حضرة الدكتور/ زياد ثابت المحترم  
وكيل وزارة التربية والتعليم  
تحية طيبة وبعد ،،،

الموضوع: تسهيل مهمة الطالب مراد دواس

يقوم الطالب المذكور بأعلاه بإجراء بحث بعنوان :

**Relationship between Trauma, Post-traumatic Stress Disorder, Resilience, and Post-traumatic Growth among Adolescents in Gaza Strip**

كمتطلب للحصول على درجة الماجستير في الصحة النفسية المجتمعية وعليه نرجو التكرم والإيعاز لمن ترونه مناسب بتسهيل مهمة الطالب في جمع البيانات اللازمة من الطلاب والطالبات المسجلين في مدارس الثانوية العامة (العاشر - الحادي عشر- الثاني عشر) في محافظات قطاع غزة.

علما بأن المعلومات ستكون متوفرة لدى الباحث والجامعة فقط وستقوم باطلاعكم على النتائج في حينها .

شاكرين لكم حسن دعمكم للمسيرة التعليمية،،،

وتفضلوا بقبول وافر الاحترام والتقدير،،،

د. بسام ابو حمد  
منسق عام برامج الصحة العامة  
جامعة القدس - غزة

College of Public Health  
AL-QUDS UNIVERSITY  
كلية الصحة العامة

نسخة:  
-الملف

فرع القدس / تليفاكس 02-2799234  
فرع غزة / تليفاكس 08-2644220-2644210  
ص.ب. 51000 القدس


Jerusalem Branch/Telefax 02-2799234  
Gaza Branch/Telefax 08-2644220 -2644210  
P.O. box 51000 Jerusalem



Annex (6)

Approval from Ministry of Education

**State of Palestine**  
Ministry of Education & Higher Education  
General Directorate of Educational planning



**دولة فلسطين**  
وزارة التربية والتعليم العالي  
الإدارة العامة للتخطيط التربوي

الرقم: و.ت.غ مذكرة داخلية (١٤٤٤)  
التاريخ: 2016/04/3  
الموافق: 25 جمادى الآخر، 1437 هـ

**السادة / مديري التربية والتعليم - محافظات غزة**  
المحترمين

السلام عليكم ورحمة الله وبركاته،،

**الموضوع / تسهيل مهمة بحث**


تهديكم أطيب التحيات، ونتمنى لكم موفور الصحة والعافية، وبخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث/ مراد خليل دواس والذي يجري بحثاً بعنوان :

**“Relationship between Trauma, Post-traumatic Stress Disorder, Resilience, and Post-traumatic Growth among Adolescents in Gaza Strip”**

وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في كلية الصحة العامة جامعة القدس بغزة تخصص صحة نفسية مجتمعية، في تطبيق أدوات البحث على عينة من طلبة المرحلة الثانوية العامة بسديرتكم الموقرة، وذلك حسب الأصول.

وتفضلوا بقبول فائق الاحترام،،،

أ. رشيد محمد أبو ججوح  
نائب مدير عام التخطيط التربوي



نسخة:  
السيد/ وكيل وزارة التربية والتعليم العالي  
السيد/ وكيل الوزارة للمساعد للشؤون التعليمية  
السيد/ وكيل الوزارة للمساعد للشؤون التعليمية العالي  
للتف.

المحترم.  
المحترم.  
المحترم

Gaza: (08-2641295 - 2641297) Fax:(08-2641292) (08-2641292) فاكس: (08-2641297 - 2641295) غزة:  
Email: info@mohe.ps

**Annex (7)****Name of assigned schools**

إناث	ذكور	مديريات التربية والتعليم
الفالوجة الثانوية للبنات	خليفة بن زايد الثانوية للبنين	مديرية شمال غزة
الشجاعية الثانوية للبنات	شهداء الزيتون الثانوية للبنين	مديرية شرق غزة
الهدى الثانوية للبنات	زهير العلمي الثانوية للبنين	مديرية غرب غزة
شهداء دير البلح الثانوية للبنات	فتحي البلعاوي الثانوية للبنين	مديرية الوسطى
طيبة الثانوية للبنات	شهداء خزاعة الثانوية للبنين	مديرية شرق خانينونس
عكا الثانوية للبنات	خالد الحسن الثانوية للبنين	مديرية غرب خانينونس
شهداء رفح الثانوية للبنات	فتحي الشقاقي الثانوية للبنين	مديرية رفح

عنوان الدراسة: العلاقة بين التعرض للخبرات الصادمة، كرب ما بعد الصدمة، المرونة النفسية، والتطور الإيجابي بعد الصدمة لدى اليافعين في قطاع غزة.

إعداد: مراد دواس

إشراف: د. عبد العزيز ثابت

ملخص الدراسة

هدفت الدراسة إلى معرفة العلاقة بين كل من التعرض للخبرات الصادمة، كرب ما بعد الصدمة، المرونة النفسية، والتطور الإيجابي بعد الصدمة لدى اليافعين في قطاع غزة، وتكونت عينة الدراسة من 400 طالب وطالبة (200 طالب و200 طالبة) من طلبة المدارس الثانوية الحكومية في قطاع غزة في مديريات التربية والتعليم من كل من مديرية شمال غزة، مديرية شرق غزة، مديرية غرب غزة، مديرية الوسطى، ومديرية شرق خانينونس، مديرية غرب خانينونس، مديرية رفح. لتحقيق أهداف الدراسة استخدم الباحث المنهج الوصفي وجمع البيانات فقد تم استخدام أربعة مقاييس هي: مقياس الخبرات الصادمة من إعداد الدكتور عبد العزيز ثابت (2014)، مقياس كرب ما بعد الصدمة، مقياس المرونة النفسية، مقياس التطور الإيجابي بعد الصدمة. لتحليل البيانات فقد تم استخدام برنامج الرزم الإحصائية للعلوم الاجتماعية (SPSS version 20)، وتضمنت المعالجات الإحصائية التكرارات، المتوسط الحسابي، النسب المئوية، اختبار (ت)، اختبار تحليل التباين الأحادي، اختبار فيشر للفروق البعدية، واختبار بيرسون للعلاقات.

بينت الدراسة النتائج التالية:

- بالنسبة للخبرات الصادمة فقد تبين أن أكثر الخبرات الصادمة تمثلت في كل من "سماع أصوات الانفجارات في مناطق مختلفة من قطاع غزة" بنسبة 92.3%، يليها "سماع صوت الطائرات بدون طيار باستمرار" بنسبة 86.3%، يليها "سماع خبر مقتل صديق أو جار خلال الحرب" بنسبة بلغت 79.5%، كما بينت النتائج أن 13% من المشاركين في الدراسة كان لديهم مستوى متدني من الخبرات الصادمة، 39.8% لديهم مستوى متوسط من الخبرات الصادمة، 47.3% لديهم درجة عالية من الخبرات الصادمة. كما بينت النتائج عدم وجود فروق ذات دلالة إحصائية في الخبرات الصادمة تعزى لكل من الجنس، العمر، مكان السكن، عدد أفراد الأسرة، الدخل الشهري للأسرة، عمل الأب والمستوى التعليمي للأب.
- كما أظهرت النتائج وجود كرب ما بعد الصدمة بدرجة متوسطة حيث بلغ المتوسط الكلي للدرجات 38.6، كما تبين أن 27.5% ممن شملتهم الدراسة لم تظهر عليهم أي من علامات كرب ما بعد الصدمة، 38% ظهر لديهم على الأقل علامة واحدة، 24% ظهرت لديهم أعراض جزئية، في حين أن 10.5% ظهرت لديهم أعراض كلية لكرب ما بعد الصدمة، ولم توجد فروق ذات دلالة إحصائية عند مستوى  $\alpha = 0.05$  في الدرجة الكلية لكرب ما بعد الصدمة

وأعراض التجنب بين الذكور والإناث في حين كانت أعراض التدخل والإثارة أعلى لدى الفتيات. كما لم توجد فروق تعزى للعمر ومكان السكن في حين كانت أعراض الإثارة أعلى لدى سكان محافظة شمال غزة، كما لم تكن الفروق دالة بالنسبة لعدد أفراد الأسرة، الدخل الشهري للأسرة، عمل الأب، والمستوى التعليمي للأب.

- وأظهرت النتائج وجود مستوى متوسط من المرونة النفسية لدى أفراد عينة الدراسة، وبلغ المتوسط العام للدرجات على مقياس المرونة النفسية 80.48 ، ولم توجد فروق ذات دلالة إحصائية عند مستوى  $\alpha = 0.05$  في مستوى المرونة النفسية تعزى لكل من العمر، الجنس، مكان السكن، عدد أفراد الأسرة، الدخل الشهري للأسرة، عمل الأب، والمستوى التعليمي للأب.
- وبينت النتائج وجود التطور الإيجابي بدرجة متوسطة حيث بلغ المتوسط العام للدرجات على مقياس التطور الإيجابي 46.005، ولم توجد فروق ذات دلالة إحصائية عند مستوى  $\alpha = 0.05$  في التطور الإيجابي تعزى لكل من الجنس، مكان السكن، عدد أفراد الأسرة، الدخل الشهري للأسرة، عمل الأب، والمستوى التعليمي للأب، في حين كان مستوى التطور الإيجابي أعلى لدى المشاركين في الدراسة الذين كانت أعمارهم بين 15 - 16 سنة.
- وبينت نتائج الدراسة وجود علاقة ارتباطية دالة إحصائياً عند مستوى  $\alpha = 0.05$  بين الخبرات الصادمة وكل من كرب ما بعد الصدمة ( $r = 0.276$ )، المرونة النفسية ( $r = 0.167$ )، والتطور الإيجابي ( $r = 0.187$ )، بينما لم تكن العلاقة دالة إحصائياً بين كرب ما بعد الصدمة والتطور الإيجابي.

في الإجمال فقد بينت الدراسة مدى تعرض أبناء الشعب الفلسطيني للخبرات الصادمة وما ينتج عنها من اضطرابات نفسية مثل كرب ما بعد الصدمة نتيجة الصراع الطويل مع الاحتلال الإسرائيلي والحروب المتتالية والحصار المفروض على قطاع غزة، وأظهرت الدراسة الحاجة إلى وضع برنامج استراتيجي للصحة النفسية للمساعدة في تطوير ميكانيزمات الدفاع النفسي التي تخفف من الآثار السلبية الناتجة عن الخبرات الصادمة.