

**The Experience and Prevalence of PTSD in Palestinian Adults Living
in the Gaza Strip**

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DECLARATION

I hereby declare that this thesis has not been and will not be submitted in whole or in part to another University for the award of any other degree. Chapter 4 (Study 1) presented in this thesis have been submitted for publication under review in the *PLOS* Journals.

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Abstract

Objective: This study aims to explore the traumatic experiences and to estimate prevalence and predictor factors for PTSD, depression and general psychiatric morbidity amongst Palestinian adults living in the Gaza Strip.

Method: A total of 500 Palestinian adults were recruited from four areas of the Gaza Strip using a snowball sampling. The same sample was used for both quantitative studies. Four scales were employed to identify predictors for trauma, PTSD, depression and general mental health. Participants were divided into three age groups: young adults (18 to 25 years), adults (26 to 49 years) and older adults (50 to 65 years). The third qualitative study was aimed at exploring the traumatic experiences of adults living in the Gaza Strip to expand upon the outcomes from the quantitative studies.

Results: For Studies 1 and 2, the prevalence rate of PTSD symptoms was 90% and 36.7% met the criteria of DSM-IV for PTSD. Study 2 found depression was 38.4%, and general mental health comorbidity was 67.1%. Study 2 revealed significant differences in PTSD between age groups. Novel results were found amongst adults and older adults on the re-experiencing subscale for PTSD. Participants who lived in Gaza City scored significantly higher on the PTSD subscale for hyperarousal compared to those living in the middle Gaza region. Study 3 expanded on the psychometric data through interviewing members of the Gaza community. When analysed five main themes were identified: Siege related stressors; war related trauma; psychological negative effects; re-experiencing initial event and coping strategies.

Conclusions: The findings indicated that blockade was the predominant cause of the increased prevalence rate of PTSD. These studies found that the Palestinian adult participants in Gaza had been exposed to a variety of traumatic events on an ongoing basis that was having a detrimental impact on their mental health.

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Chapter 1: **General Introduction**

Post-traumatic Stress Disorder (PTSD) is defined by the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV TR APA, 2000), as an anxiety disorder that occurs after exposure to a traumatic event (see full definition in chapter 2). The traumatic event(s) should have the ability to stimulate fear, helplessness or horror in response to trauma, war or political trauma. The anxious individual usually fears the occurrence of an unexpected threat. Individuals with PTSD tirelessly try intentionally to avoid recalling the traumatic event, but experience intrusive thoughts, images, flashbacks or dissociative reactions. In turn, these can cause intense chronic psychological distress and internal or external physiological reactions (Silove, Ivancic, Rees, Bateman-Steel & Steel, 2014; Straker, 2013; Karam, 2008, 1992; Thabet, Tawahina, Sarraj & Vostanis, 2013, 2009, 2008). Brewin et al. (2008), Galea et al. (2012) and Tracy, Morgenstern, Zivin, Aiello and Galea, (2014), consistent with other recent studies (e.g. Nuttman-Shwartz, & Shoval-Zuckerman, 2015), showed that the direct or indirect exposure to continuous war, political violence or terror attacks has a profound negative psychological impact on all populations involved in such events.

Worldwide epidemiological prevalence studies and national comorbidity surveys of PTSD in both the general population and clinical settings have reported that it is very common (e.g. Cahill & Pontoski, 2005; Greenberg, Brooks & Dunn, 2015; Norris & Slone, 2013; Kessler et al., 2005, 1995). The studies have also indicated that most of the participants in both settings have been exposed to at least one or more traumatic experience in their lifetime. However, few went on to develop PTSD symptomology (Greenberg et al.,

2015; Ogle, Rubin, Berntsen & Siegler 2013). PTSD is frequently comorbid with depression, anxiety disorders and somatic complaints (Breslau, 1998; Kessler et al., 2005, 1995, 1994; Kulka, 1990).

PTSD symptoms commonly start after exposure to a traumatic event, but individuals may not recognise the nature of the symptoms until months or even years later (Greenberg et al., 2015; Ogle et al., 2013). If the symptoms last longer than one month, cause great distress or disturb home life or work, then an individual may be diagnosed with PTSD. Symptoms that last three months or longer would be categorised as chronic PTSD (DSM-IV TR 2000). Once manifested and diagnosed, the symptoms may persist for several years (Greenberg, et al., 2015; Ogle, et al., 2013).

Many individuals diagnosed as suffering from PTSD feel as if they are unable to control their feelings (Breslau, 1998; Kessler et al., 2005, 1995, 1994; Kulka, 1990; National Collaborating Centre for Mental Health (UK. 2005). The morbid feelings arising from it can cause individuals to blame themselves, to resent others and the world, for their mental state, (Ehlers & Clark, 2000; Foa et al., 1999). However, PTSD is a preventable and treatable disorder (Markowitz, 2010). An untreated traumatised individual or one receiving late or inappropriate therapy, can develop comorbid psychopathology, such as severe depression and/or substance abuse, which in some cases leads to suicide (Markowitz, 2010). Consequently, if an adult identifies his/her symptoms early, generally within the first 3 months, he/she should seek appropriate counselling and/or psychiatric intervention therapy so as to restore balance and stability (Lazarus & Folkman, 1984).

The persistence of PTSD symptoms is based on: the degree of the severity of early exposure, the manifestation of the last stressors, and on the association between the effective role of the moderators

and mediators of an individual's modification of post war stressors (Miller & Rasmussen, 2010). Previously, Karam et al. (2008, 2006) observed that PTSD symptoms decreased by at least half amongst those individuals who were exposed to post war conditions, while a minority may demonstrate persistent or experience delayed-onset PTSD symptoms. These individuals can meet with the full diagnosis of PTSD (Bender, Eynan, O'Grady, Nisenbaum, Shah, & Links, 2016; Layne et al., 2010, 2009).

Recent studies on the prevalence of PTSD conducted in developing countries have reported that there is has been much less investigation into this matter when compared to the developed world (Hall, Murray, Galea, Canetti & Hobfoll, 2015; Mugisha, Muyinda, Wandiembe & Kinyanda, 2015). Thabet et al. (2013, 2009, 2008), de Jong et al. (2001- 2003), Madianos, Sarhan & Koukia (2012, 2011) point out there has been historically a lack of cross-sectional research in the Gaza Strip among adult population, for most if not all the studies have pertained to children and adolescents. This thesis is aimed at addressing this gap by placing specific emphasis on the adult population, thus, to my knowledge, being the first investigation of its kind.

PTSD studies have revealed substantial cross-cultural variations in lifetime prevalence and the resulting rates of PTSD diagnosis after exposure to specific traumatic events (Kessler et al., 2005; Somasundaram & Sivayokan, 1994). Specifically, the lifetime prevalence rates in 18 countries worldwide showed substantial differences (Kessler et al., 2005). Specifically, in the USA it was found that the prevalence rates according to gender difference were 5% for males and 10-11% for females (Kessler et al., 2005, 1995). In the UK, the estimated prevalence rate of PTSD was 3% in the adult population (McManus, Meltzer, Brugha, Bebbington & Jenkins,

2009). Whilst research in the Middle East reported that the lifetime prevalence of PTSD among adults is as follows: Lebanon 3.4%, (Karam et al., 2008), Israel 9.4% (Bleich et al., 2003) and Gaza 17.8% (de Jong et al., 2001).

UK war veterans' studies (e.g. Jones et al., 2014) estimated that 2.8% of veterans were categorised as having symptoms of PTSD in 2010 and 1.8% in 2011. In northern Uganda after seven years of armed conflict, Mugisha, Ssebunnya & Kigozi, (2016) examined the prevalence rate of PTSD among both genders to find a rate of 22.3%. They also found that the proportion of the participants that had had experienced at least nine traumatic events in their lifetime was 13.4% for males and 10.9% for females. The findings strongly indicated that exposure to war, childhood trauma, political conflict; unsafe settings, difficult living conditions and lack of coping were associated with PTSD.

From the above it can be seen that the severity of the prevalence rates of PTSD vary from one country to another. This variation may be related to the nature and/or types of traumatic experiences investigated and/or the methodological differences between the studies (Brewin, 2005; Elhai & Palmieri, 2011; Friedman et al., 2001). Whilst the variation could also be due to the screening instruments of the 17 items of the DSM-IV symptoms across diverse cultural groups, (Elhai & Palmieri, 2011; Grubaugh, Long, Elhai, Frueh & Magruder, 2010); the sample of choice (DSM-IV TR, 2000) or because of the threshold scoring method not being substantially associated with other instruments (Brewin, 2005, 2000; Perkonig et al., 2005, 2000).

Evaluating, the impacts of war and political conflict-related trauma and PTSD in the Middle East has unique methodological challenges (Chatty, Crivello & Hundt, 2005; Neria, Bravova & Halper,

2010). This variation limits the cross-cultural applicability and the generalisability of the findings. That is, there are significant variations in culture, governmental systems, ethnicities and religious belief (Canetti, Rapaport, Wayne, Hall & Hobfoll, 2012), amongst other things, across the region. The lack of epidemiological systematic studies and surveys in both the general population and clinical settings in Arab countries (including Gaza) has remained an unresolved problem in both settings. Consequently, research about the Middle East remains underrepresented in the trauma and PTSD literature (Neria et al., 2010). Accordingly, as aforementioned, there is a contemporary shortage of adult population studies in the Middle East. However, what literature there is regarding Arab contexts is deemed useful for guiding the current study in terms of establishing the overall research aims and objectives. For example, few to no studies were found regarding Iran, Israel, Palestine, Iraq and other Arab countries (Neria et al., 2010; Williams & Thompson, 2011). The only large scale survey conducted in Iran ($n=25,180$) found the rate of PTSD to be less than 1% (Mohammadi et al., 2005). In Lebanon, Farhood, Dimassi, & Lehtinen (2006) reported that 29.3% of an adult sample ($n = 256$) met the criteria for PTSD after the 2006 war. In contrast, after two years of war in Lebanon, Karam and colleagues (2008) in a national survey ($n = 2,857$) of Lebanese adult civilians, found a lifetime prevalence rate of PTSD of just 3.4%. In Iraq, Alhasnawi et al. (2009) reported the lifetime prevalence of PTSD as 13.1%, slightly higher than Al-Jawadi & Abdul-Rahman, (2007), while in the estimated rate was 10.5%. The majority of studies conducted in the Palestinian territories, focused on children and adolescents. However, currently, very few studies have been carried out in the West Bank and the Gaza Strip that focused on the adult population.

1.1 Children and adolescent studies in the Palestinian territories

Since the signing of the Oslo Peace Accord (1993) between Israel and Palestine, the majority of psychological studies of Palestinian children and adolescents reported high rates of PTSD and depression related to war and blockade in the Gaza strip. For example, Elbedour, Onwuegbuzie, Ghannam, Whitcome & Abu Hein (2007) found that the prevalence of PTSD was 68.9% among Palestinian youths aged 15-19 years living in the Gaza Strip, after two years of the second Intifada (2000-2007).

Through West Bank studies among children and adolescents, In East Jerusalem, Khamis, (2005) estimated the prevalence of PTSD among Palestinian adolescents to be 34.1%. It is common to find in such studies a high prevalence rate of PTSD where vulnerable children and adolescents live in war-affected areas, ranging from 32.7% - 54% and up to 59% for those group populations exposed to the demolition of their home. The above findings were supported by those of other recent Palestinian studies (e.g. Khamis, 2012; Punamaki, Qouta & Sarraj, 2010).

1.2 Adults studies in the Palestinian territories

On the West Bank and Gaza, Madianos et al. (2012, 2011) estimated the prevalence rates of PTSD and Major Depressive Episode (MDE) in an adult sample ($n=916$) based on the Structured Clinical Interview for DSM-IV version 1 (SCID I modules). The results indicated that the prevalence of chronic PTSD was 18.7%, comorbid with a lifetime MDE of 26.5%. Punamaki et al. (2005) reported the prevalence rate of PTSD amongst adults in Gaza was 24% in males and 16% in females. In 2001, de Jong and colleagues

found that the lifetime prevalence of PTSD among adults in Gaza was 17.8%.

This thesis contains two quantitative studies and one qualitative. In order to provide a comprehensive understanding of the experience, the prevalence of PTSD and depression in Palestinian adults living in the Gaza Strip, Studies 1 and 2, both quantitative, identifies what factors underpin these patterns and their associations. Study 3 will explore how trauma impacts on Palestinian adults in the Gaza Strip, focus on the processes of trauma and PTSD, i.e. the psychological and behavioural patterns and their associations in adults. Each study has particular methodological orientations, which contribute to the research aims and objectives using unique theoretical frameworks. The three studies, are related as the context is the adult population of Gaza. However, they have distinct differences, which are explored and explained as independent entities. The findings from all three studies are integrated in the general discussion and conclusion chapter.

In Gaza, both males and females are constantly being exposed to a variety of distressful traumatic experiences of war and more than ten years of blockade. Accordingly, this research will examine whether there are any differences in the prevalence rates of PTSD, depression and general psychiatric morbidity between both genders (males and females) and whether they are moderated by their age, marital status, place of residency and education levels were as follows: post-graduation, university degree, secondary school level certificates, college degrees and primary level schooling. The implication of war and blockade related traumatic experiences have significant influence on the development of PTSD as well as its patterns. Moreover, the risk factors in warfare, political conflict and/or siege situations make the individual feel less resilient and/or

unable to cope with normal daily stressors, as well as becoming less responsive to any provision of counselling or psychological therapy (Breslau et al., 1998).

1.3 Quantitative studies (Study 1 and Study 2)

The overarching aim is to estimate the prevalence rates of PTSD, depression and other related psychological problems. Moreover, the purpose is to identify the psychological impact of the ongoing threat of war as well as the long-term siege on the general mental health of adults residing in the Gaza Strip.

Study 1 (quantitative) was mainly designed to assess the prevalence rate of PTSD among Palestinian young adults, adults and older living their whole life in the Gaza Strip, according to their age and gender. The second aim was to explore whether adults within Gaza are a homogeneous group when considering the risk of PTSD by examining the impact of age and gender. A third aim was to investigate whether PTSD is experienced in a similar way across age and gender. The main hypothesis was that there would be a difference regarding both genders as to how PTSD is experienced according to the age and gender of the respondents. For Study 1, it was hypothesised that: a) age is positively associated with the degree of trauma and PTSD, and b) gender is positively associated with the degree of trauma and PTSD. In sum, this study examines the overall effects on the mental health of Palestinian young adults, adults and older adults in the Gaza Strip. These independent variables (age and gender) are discussed in chapter 4.

The study 2 (quantitative) was designed to determine the prevalence and to predict factors comorbid with PTSD, depression and to assess the general psychiatric morbidity among the Palestinian adult population living in the Gaza Strip. This was divided

into two parts, as follows: (1) establish PTSD and depression prevalence rates among adults; and (2) identify the moderating and mediating factors between trauma exposure and PTSD.

A sample of 500 Palestinian adults was recruited using snowball sampling aged between 18 - 65 years from the four regions of the Gaza Strip. The participants in both Study 1 (Chapter 4) and Study 2 (Chapter 5) are based on a single data collection exercise from the same sample of participants. The participants completed four psychometric scales, which predict traumatic experiences, prevalence rates of PTSD, depression and general health. They were also asked about the type, severity and exposure to lifetime traumatic experiences during war, siege and associated variables of risk, which lead to PTSD. Sociodemographic variables (e.g. gender and age) have been associated with increased risk of the prevalence rates of PTSD and depression symptoms (Kessler, et al., 2005; Perkonig, Kessler, Storz & Wittchen, 2000). For study 2, it was hypothesised that there would be a positive relationship between war and blockade experience and levels of trauma, PTSD and depression. These high rates would then lead to the development of mental disorders and societal dysfunction. Further, if early and mild symptoms are not recognised as post-traumatic reactions, individuals will go on to develop, over a three month period, chronic PTSD comorbid with psychological and physical symptomology (DSM-5, 2013). Critically, it is argued that the effects of the sociodemographic variables change and continue to change dramatically during and after repeated violence, which is associated with PTSD being comorbid with other related mental disorders (Kessler et al., 2005; Schick, et al., 2016; Trinh, Oh, Choi, To & Van Do, 2016). In sum, this study involved examining the overall effect on the mental health of Palestinian adults in the Gaza Strip.

Independent variables, including war, siege, age, gender, marital status, residential location and educational levels are evaluated and discussed in chapters 4 and 5.

Study 1 and 2, are based on Ehlers and Clark's (2000) cognitive model of PTSD as a theoretical framework. The significance of choosing this model for the current quantitative studies is for the following reason. Most of the studies on PTSD (Brewin & Holmes, 2003), depression (Beck, 1996; Teasdale, 1988) and anxiety disorder (Beck et al., 1985; Clark, 1999) that have been carried out emphasise that cognitive factors play a significant part in most of the recent theoretical models of PTSD. Thus, cognitive processing, trauma memory, appraisals, sequelae and poor elaboration (Dunmore, Clark & Ehlers, 2001; Foa, Ehlers, Clark, Tolin & Orsillo, 1999) are likely to be linked with individuals developing PTSD symptoms. This model has important background factors associated with PTSD, depression and subsequent treatment (Andrews, Brewin, & Rose, 2003; Dalgleish, 2004; Dunmore, Clark, & Ehlers, 2001).

These two quantitative studies involved examining (March 27th to May 2014) adults who had remained after the conclusion of hostilities, under prolonged siege and who were further expecting the threat of a future military incursion that finally did occur in July 2014. Ehlers and Clark, (2000) addressed this current sense of threat First, in terms of differences of trauma and/or its sequelae and second, differences of memory related to a traumatic event and linkage to intrusive traumatic autobiographical memories (Halligan, Michael, Clark & Ehlers, 2003). Ehlers and Clark, (2000) contended that when a traumatic event is re-examined/recollected through 'cognitive processing' trauma or expectation of trauma, this affects

thought processes in the form of negative mental appraisal, which is termed 'mental defeat' the perceived loss of identity as a human being and its resulting helplessness (Ehlers, Maercker & Boos, 2000). Such trauma memory is resisted by behavioural patterns and cognitive strategies as a result of negative appraisals to the traumatic event (Ehlers & Clark, 2000). However, intrusive thought, poor concentration, and feelings of numbness can persist. Consequently, such avoidance strategies can be maladaptive and delay recovery from PTSD (Ehlers & Steil, 1995; Foa & Rothbaum, 1998).

Finally, this model is based on the main criteria of PTSD and depression symptomology, as categorised in the DSM IV and DSM 5. It is consistent with the main clinical features of PTSD and depression criteria and provides a solid foundation for early intervention (with individuals traumatised in crisis situations, such as war or political conflict) and therapy, being aimed at producing positive changes for individuals and the surrounding environment (Anckermann et al., 2005). Recent research gives consistent support for several key aspects of Ehlers and Clark's (2000) cognitive model of PTSD for adults. This model provides a substantial framework for study 1 and 2, as reviewed and explained in Chapter 3.

1.4 Qualitative study (Study 3)

Study 3 (qualitative) was conducted between May and June 2013. The data for this study was collected 10 months after the end of the 2012 war. Over the course of this study, the relationship between the individual's internal demands and the environment's external impacts are addressed. In this qualitative study, transactional relationships are explored and understood using the transactional theory of stress and coping (Lazarus, 1966; Lazarus &

Folkman, 1984; Lazarus & Launier, 1978). Transactional theory provides a theoretical framework for evaluating the processes of coping with stressful internal reactive experiences, based on external and uncontrolled stressors (Lazarus & Cohen, 1977; Antonovsky & Kats, 1979; Cohen, 1985).

Transactional theory comprises two integral cognitive appraisals: the primary appraisal addresses the need to evaluate the inherent potency of a stressful situation. Secondary appraisal considers the person's own evaluation of experience, and the efficacy of internal and external coping resources in accordance with transactional theory (Cohen, 1984). These theories are explained in chapter 3. Additionally, the thematic analysis model by Braun and Clarke (2006) for PTSD as a method is used and evaluated in chapter 3.

A general literature review provides a background preface to the topic at hand. This is followed by a chronological summary of the definition of PTSD in the *Diagnostic and statistical manual of mental disorders* (DSMs). Definitional changes are accounted for by plotting the history of the diagnosis of PTSD and depression, in relation to prior DSMs, beginning with the current criteria drawn from DSM-5 (2013). This study introduces, as required, the historical developments and changes informing the concept of trauma, complex PTSD and chronic PTSD. Also, a selection of diagnostic and empirical studies is examined. The current literature is drawn upon to review critically the present theoretical frameworks to assess their strengths and weaknesses, together with the treatment implications and effectiveness. Based on the evidence arising from this research, conclusions and recommendations will be put forward in relation to the findings of this thesis.

1.5 **General Aims of the Current Research**

The aims of the current research are to explore traumatic experiences and to establish the prevalence rates of PTSD, depression and general mental health among Palestinian adults living in the Gaza Strip. Three aspects are addressed: (1) establishing the PTSD, depression and other general mental health prevalence rates among adults; (2) identifying the mediating factors between trauma exposure and PTSD; and (3) exploring how trauma impacts on Palestinian adults in the Gaza Strip. In addition, to understanding these individuals' coping strategies and their innate abilities of resilience, the relationship between their internal demands and the environment's external impacts are investigated over the course of the research.

Further, the relationship between exposure to traumatic events and the prevalence of PTSD and the effects of sociodemographic variables as contributing factors is investigated. The sociodemographic variables of interest include age, gender, marital status, place of residence and education levels in relation to the psychological effects of war and siege experiences in an adult sample in the Gaza Strip. This research is also aimed at identifying the psychological impact of the constant threat of war, in addition to the long-term siege on the rate of PTSD in adults in Palestine.

Owing to the lack of knowledge about this population, the appropriate therapeutic conditions and models for children and adolescents have proven to be maladaptive when applied as a therapeutic treatment approach for adults with PTSD (Khamis, 2008; Thabet, et al., 2009, 2008). This study is focused specifically on adults of both genders who, having been exposed to continuous war and suffering under prolonged siege, go on to develop trauma and PTSD symptoms. With the understanding gained from this study,

future research and treatment approaches will be directly applicable to the adult population living in the Gaza strip, and indeed in other countries with similar conditions.

1.6 Research Questions

The three studies' research questions relating to the psychological impacts of war and siege on the adult population experiences in the Gaza strip to be addressed are:

Study 1: How PTSD is experienced based on age and gender of the participants? Study 2: What is the prevalence rate of PTSD and the predictor factors comorbid with PTSD, depression and general mental health among Palestinian adults? What type and severity of trauma have Palestinian adults experienced?

Study 3: How are adults affected by difficult and stressful situations in the Gaza Strip? How do they describe their traumatic experiences and do they make sense of their experiences during and post trauma? The three studies have been designed to address these research aims and objectives.

1.7 Overview of the Current Research

Serious traumatic events occur in situations of war and/or areas of conflict; these events can prove to be overwhelming to individuals. They may remain in a state of extreme danger and fear even post-conflict. In the case of the Gaza war and its resulting political conflict, adults as well as the rest of the population live in constant threat of exposure to airstrikes, invasion, death and the daily threat of unexpected attacks. In other words, people in Gaza live in very stressful conditions. The whole of the population suffers from a lack of resources as a consequence of the current blockade as reported recently by the Palestinian Central Bureau of Statistics

(PCBS, 2016) and United Nation Relief and Works Agency for Palestinian (UNRWA, 2016).

Applying a global perspective, the snowball sample in this present research comprised 500 Palestinian adults from four areas of the Gaza Strip. Both the quantitative and qualitative studies incorporate and acknowledge other global literature in relation to war trauma and PTSD. The studies are supported by methodologies and theoretical frameworks that interpret the construct of PTSD within this existing literature in order to meet the diagnosis of PTSD as in the DSM-IV-TR (2000).

Overall, the present research provides a profoundly deep insight into the Palestinian adult's traumatic experiences, and reports new prevalence rates of PTSD, depressive symptoms and general mental health morbidity among adults in Gaza. The present research addresses the gap of adult experiences of PTSD, depression and general psychiatric morbidity in Gaza. The strength of the present research contribution lies in its originality: to the best of the researcher's knowledge, this doctoral thesis is the first to explore factors associated with PTSD, depression, and general mental health among the adult population in Gaza, within the context of long-standing war, political violence, and prolonged siege.

The significance of the present research is, to shed light on which are the variables and risk factors that have the greatest impact on the prevalence rates of mental disorders among the Palestinian adult population in Gaza. Additionally, clinical and practical intervention therapies can be developed by referring to the current study findings. For example, psychosocial and psychoeducational programmes, can be developed and tailored to enhance coping and resiliency for psychological adjustment for traumatised adults with

mild, moderate and severe PTSD symptoms and depression. For practice settings, for example, the following therapies can be applied: counselling, relaxation, Cognitive Behaviour Therapy (CBT), and Eye Movement Desensitization and Reprocessing (EMDR) therapy approach for PTSD, introduced by Shapiro, (1989). Thus, the clinical effects of these therapeutic approaches can be improved through the focus on their models (Cuperus, Laken, van den Hout, Marcel & Engelhard, 2016). Most importantly, these methods and others can be developed in the treatment settings and also, after crisis situations (Zhang, Zhou & Li, 2016). Finally, in relation to crisis and war situations, from the present study it is recommended that a holistic approach with rapid response to trauma for psychological adjustment should be adopted, such as providing individual medical treatment, family therapy with a holistic psychosocial and psychiatric approach.

1.8 Outline of the content of the thesis

The aim of this chapter (1) has been to provide an overview, the definition of PTSD being briefly identified. Brief references have been made to several previous and current epidemiological prevalence studies and comorbidity surveys of PTSD, depression and general health, in developing and Western countries.

Chapter 2 evaluates the general literature about the prevalence rates of PTSD, depression and general psychiatric morbidity, in conflict countries. In particular, it considers literature specifically concerned with war trauma and PTSD among civilian adults in Gaza. There is discussion on the definition and development of trauma and PTSD, as found in the DSMs. Specifically, from 1980 to the current DSM-5, 2013 and the alteration of the DSM-5 are covered in detail. Definitions of depression is

included, so as shed light on the risk factors and the etiologies of complex PTSD and depression in the Gaza Strip. Independent and dependent variables are discussed in the light of the relevant literature

Chapter 3 provides a general overview of the methodologies employed to investigate the problems related to the prevalence rates of PTSD and co-morbidities along with other mental disorders related to traumatic experiences.

This research was conducted using two approaches. For the two quantitative studies, i.e. study 1 in chapter 4 and study 2 in chapter 5, Ehlers and Clarks' (2000) cognitive model of PTSD was used. For Study 3, a qualitative investigation presented in chapter 6, the thematic analysis model of Braun and Clarke (2006) was deployed. Moreover, the transactional theory of stress and coping (Lazarus, 1966; Lazarus & Folkman, 1984; Lazarus & Launier, 1978) was also employed for this study. The mixed-methods approach was adopted so as to provide in depth understanding regarding adults' traumatic experiences, resiliency and coping strategies.

The following three chapters present the empirical studies; all designed to measure and understand the unique dimensions of trauma, PTSD, depression and general psychiatric morbidity effects and prevalence. The findings of quantitative studies (4 and 5) will be discussed in light of the previous and current related literature view.

Chapter 6 presents the third empirical study (3) which was conducted in a semi-structured interview format. The general aim of this study was to provide more 'in-depth' understanding of the experiences of adults living in the Gaza Strip, then the study outcomes are able to provide.

Chapter 7 is the last, containing general discussion and conclusions of the research, its implications, its limitations and

strengths and proposals for further research. It includes a discussion of the key implications of each element of the three empirical studies, along with the overall findings regarding the effects of war and blockade on the prevalence rates of PTSD, the comorbidity of other psychological disorders and physical symptoms. The psychological impacts of the socio-demographic independent variables are examined, including: age and gender effect factors, educational levels, marital status and residential location and siege effects on the prevalence rates of PTSD, depression, and general psychiatric co-morbidities.

Chapter 2: Literature Review

2.1 Introduction

Exposure to traumatic events has serious consequences for mental health. It is a precondition for the diagnosis of post-traumatic stress disorder (PTSD) and is a concomitant associated with a variety of other negative mental and physical health outcomes (e.g. Benjet et al., 2016; Breslau et al., 1999; Galea et al., 2007; Kilpatrick et al., 2013; Norman et al., 2006; Norris et al., 2002; Scott et al., 2014; Shamia, Thabet, & Vostanis, 2015; Turner & Lloyd, 1995). Lifton (1967) has shown that earlier historical studies had as their focus the psychological understanding of returnees arriving back from combat zones. Clear evidence suggests that traumatic events can lead to psychological and related psychiatric disorders (Horowitz, 1998). Where we find conditions of war and siege along with economic deprivation, trauma with related stressors can be psychologically ubiquitous among individuals and communities, affecting their essential life activities and their long term aspirations (Joma'a, & Thabet, 2015; Shamia, et al., 2015; Wilson & Raphael, 2013). Empirical research has shown that many individuals that have experienced adverse or extreme traumatic events 'carry on' and resume a quasi-normal life (Bonanno, 2004; Foa et al., 2008). In contrast, a proportion of people who experience traumatic events demonstrate acute emotional problems, including behavioural problems, culminating in post-traumatic stress disorder (PTSD). PTSD in adults can be observed as extreme reactions and co-occurring symptoms, including but not limited to, intrusion, avoidance, alterations in cognition and mood, arousal and reactivity symptoms (DSM-5 2013).

2.2 Definitions of trauma and PTSD

Trauma Definitions

The DSM-III (1980) defined a traumatic experience as a “stressor that would evoke significant symptoms of distress in almost everyone” (APA 1980, p. 238). The DSM-III- R (APA, 1987) expanded the definition of trauma as an occurrence, which is “an event that is outside the range of normal human experience”, and that “would be markedly distressing to almost anyone” (DSM-III-R, 1987, p. 250). The DSM-IV (APA, 1994, p. 427) provides further clarification to this definition in Criterion A1, which defines the traumatic event as “an event(s) that involved actual threatened death or serious injury, or a threat to the one’s physical integrity of self or others, and which evoked intense fear, helplessness, or horror” (DSM-IV-TR APA, 2000, p. 467). Subsequently, the definition of trauma in the DSM-IV reflects and associates the traumatic event with environmental and psychological factors, pre-and-post the occurrence of the traumatic experiences.

The definition of trauma in DSM-5 reflects the relationship between direct, indirect, and repetitive exposure to traumatic events and the severity of the disorder. It is a person that has been “exposed to actual or threatened death, serious injury, or sexual violence, in catastrophic events such as war, rape, [siege], road accident, involving a direct or indirect threat to the physical integrity of a person, in one (or more) of the following events: Direct exposure to traumatic event(s), witnessing, in person, the event as it occurred to others. Indirect exposure by ‘learning’ that a close relative or close friend was exposed to trauma”, i.e. “experiencing repeated or extreme exposure to aversive details of the [...] event(s)” (i.e. combat, natural disaster, rape, or physical assault). These traumatic events hold the potentiality of giving rise to PTSD symptoms and

other psychiatric disorders, parallel with the original specified and initial definitions of traumatic events in the earlier DSMs (DSM-5, APA, 2013).

Trauma has many faces and whilst the psychological reactions are similar, they can be manifested as differing subjective ones. For example, some sufferers will become easily irritated and hyperactive, while others may become withdrawn and depressed. Both groups can suffer similar symptoms: sleep disturbance, frequent nightmares, hyper-arousal, lack of concentration, flashbacks, and memory loss of the event are universally common (DSM-IV, TR, 2000). Initial post-traumatic responses after a major disaster may be as high as 95% of those exposed to the traumatic event. This percentage falls to 30-40% after a year post-event (DSM-IVTR 2000).

Cognizance of the cumulative type, duration, severity and an individual's reaction to an initial traumatic event is essential for a diagnosis of PTSD. Individuals who do not show signs of recovery, from the initial traumatic event after 1 month, are defined as suffering from PTSD, and if duration of disturbance symptoms is lasting for 3 months or longer they are suffering from chronic PTSD (DSM-IVTR, 2000). They are more likely to suffer PTSD symptoms, if these symptoms are not observed and treated early. The onset symptoms of PTSD are often delayed, at least 6 months or even years after the stressor (DSM-IVTR, 2000; Shalev, 2009). Epidemiological studies, have found that natural recovery of individuals, is significantly common after one month and even longer, after exposure to a traumatic event, without need for treatment. (e.g. Breslau et al., 1991; Galea et al., 2007; National Collaborating Centre for Mental Health UK., 2005; Kessler et al.,

2005, 1995; Davidson, Hughes, Blazer, & George, 1991; Wang, Berglund, Olfson, Pincus, Wells, & Kessler, 2005).

PTSD Definition

PTSD was adopted and recognised as a diagnostic entity by the American Psychiatric Association (APA), as part of the official classification of psychiatric disorders in the third edition of DSM-III (1980), based on three defined clusters: a) re-experiencing, b) avoidance and c) increased arousal. These symptoms are defined in terms of their relationship with the identified traumatic event that is the presumed cause of the PTSD disorder (APA, 1980). PTSD has since been recognised by the APA as a predominant disorder in any given population that has been exposed to traumatic events. This initial recognition of PTSD as a distinct area empowered researchers to carry out further studies on a variety of trauma-affected subject groups (Davison & Neale, 1998). With the growth of psychiatric epidemiology studies, the definition of PTSD in the DSM-III (1980), DSM-III- R,(1987) DSM-IV (1994), and DSM-IV TR (2000), has evolved and broadened to include a wide range of new criteria, symptoms and traumatic events, as evidenced in the current DSM-5 (2013) as seen in appendix A table 2.1.

Definition of Complex PTSD

Complex PTSD, as a concept, was introduced by Herman (1992) to describe syndromes in survivors who were exposed to repeated trauma. It is defined as a psychological injury resulting from continuous and repetitive exposure to extreme traumatic stressors (Cloitre et al., 2010; Courtois & Ford, 2009; Resick et al., 2012). Complex PTSD can also result from chronic physical illness that requires intensive medication (Cook et al., 2005; Wolf & Friedman, 2015). It can occur from a single traumatic event (e.g. a car accident), unlike war and captivity, which have multiple risk factors.

Prisoners of war experience multiple faces of trauma following wars of aggression; they are captured, imprisoned and/or tortured (Herman, 1992; Solomon, Dekel & Mikulincer, 2008). These repetitive traumatic experiences of war and prisoners of war may lead to complex PTSD. Also, an individual may develop a unique form of complex PTSD sequelae, and/or disorders of extreme stress not otherwise specified (DESNOS) (Herman, Van der Kolk & Bessel, Courtois & Ford, 2009; Nemčić-Moro, Frančišković, Britvić, Klarić, & Zečević, 2011).

Definition of Chronic PTSD

Bisson (2007) asserts that symptoms of chronic PTSD can develop after unusual risks or actual threat and stressful experiences. More recently, after the elimination of chronic stress from the DSM-5, some professionals (Kilpatrick et al., 2013; Miller et al., 2013) maintain that careful assessment must be made to ascertain whether PTSD symptoms are concomitant with the specific traumatic event, and/or whether specific personality disorders occurring before the traumatic event or are “co-occurring” with the event-related trauma and the ensuing development of PTSD. Furthermore, such practitioners argue that there might be underlying undiagnosed symptoms (for example, a specific and chronic personality disorder), which would lead a vulnerable individual to be more susceptible to the development of chronic PTSD, or a clinical misdiagnosis of PTSD, when in fact the person is manifesting symptoms of an earlier undiagnosed borderline personality disorder (Grant et al., 2008). Of course, both disorders can co-occur, and so must be treated together (US Department of Veteran Affairs, 2012).

Etiology of Complex PTSD and Depression

Around 175 epidemiological studies have been conducted in developing countries on adults. Of particular interest was the

defining Cambodian survey of 1000 participants, the findings indicated: after a decade of the absence of the traumatic events, 993 participants continued to exhibit psychiatric symptoms as a result of the initial accumulative trauma. In fact, symptoms of PTSD, depression and dissociative symptoms were pervasive, even after the absence of the war stressors (Mollica, McInnes, Poole & Tor, 1998; Mollica et al., 1993). Most of the epidemiological studies have provided evidence that PTSD often occurs with other mental disorders. Kessler (1995) found in a National Co-Morbidity Survey that about 84% of traumatised adults have suffered from other mental disorders during the course of PTSD, such as depression, anxiety, social phobia, alcohol abuse/dependence, drug abuse/dependence, antisocial behavior disorder and mania. Epidemiological determinants are thus essential tools for researchers in observing mental disorders and contributing factors (Kilpatrick, Ruggiero, Acierno, Saunders, Resnick & Best, 2003).

As mentioned earlier, complex PTSD occurs after exposure to repetitive exposure to traumatic events over a number of years (Kessler et al., 2005; Herman, 1992; Resick et al., 2003). Complex PTSD, followed by other mental disorders, may occur in different ways (Herman, 1992), e.g. a person with a history of major depression has a high potential of developing complex PTSD (Resick et al., 2003). Individuals negatively affected by accumulative exposure to war traumas can develop complex PTSD and depression (Brady, Killeen, Brewerton & Lucerini, 2000). Furthermore, complex PTSD can lead to other psychological disorders, such as anxiety and dissociative behaviour disorders (Cicchetti, Rapaport, Wayne, Hall & Hobfoll, 2012; Cloitre et al., 2010). It is an independent entity that can be diagnosed separately, provided the different symptoms over time are known (Waddington

et al., 2003). Continuous exposure to traumatic events can increase an individual's symptomatology, ranging from irritability, to hopelessness and helplessness. These severe symptoms can meet with the DSM-IV-TR (2000) criteria for PTSD. Moreover, with accumulative exposure to war traumas and social negligence, an individual is more likely to develop depression (Bonanno, 2004; Cloitre et al., 2009; Kira, Ashby, Omidy, & Lewandowski, 2015). The definition of PTSD criterion 'A' of the DSM-IV-TR (2000), in accordance with the variable of war trauma, now includes other types of exposure to trauma, such as assault, loss of home/job, and health issues like HIV/AIDS, cancer and re-experience, especially when issues of poverty, security and food are a daily reality (DSM-5). At particular risk are emotionally vulnerable individuals, who have the potential to develop PTSD symptoms. All of the above pertains to a society living under military occupation and blockade, as in Gaza.

War and post-conflict literatures indicate that the civilians who are living in the combat areas are more likely to be affected than their counterparts living away from such areas (Greenberg et al., 2015; Ogle, et al., 2013). People who live in conflict areas are more likely to develop PTSD and other mental disorders than was originally predicted (Brewin et al., 2000; Greenberg et al., 2008; Kessler et al., 1995). This is because it is often difficult to predict which specific associated factors cause PTSD (Greenberg et al., 2015; Harsha, Ghandour & Giacaman 2016; Waddington et al., 2003).

It is difficult to identify chronic PTSD due to its symptoms of development and emergence. The overlapping symptoms of chronic PTSD and major depressive disorder together are recognised as predictive factors of PTSD after the actual threats of exposure to

extreme traumatic events have, to an extent, dissipated (Breslau et al., 2000; Kessler, McGonagle, Zhao & Nelson, 1994; Ferrada-Noli, Asberg, Ormstad, Lundin & Sundbom, 1998). Underlying may symptoms emerge, but are as yet unrecognised by the individual (and therefore remain undiagnosed and untreated) as symptoms of chronic PTSD. They can affect the individual's relations with family, close relatives and friends, often leading to a worsening of the individual's symptoms, because of the lack of understanding of what is happening to him/herself.

The above mentioned conditions leading to complex PTSD are seen in populations constantly living in war regions, post-conflict areas, near borders (clash areas) or refugees forced into exile, as in the case of Palestinians formerly living in the Gaza Strip. Now, 76% of the population of Gaza has been externally and internally displaced. Since 1948, these refugees have been exposed to war-related traumatic events (UNRWA). Refugee studies conducted on Sudan's refugees, who were displaced in Uganda during the civil war (1978 to 1979), found that 29% met the criteria for PTSD and 79% for depression (Kulka et al., 1990; Marshall, Schell, Elliot, Berthold & Chun, 2005). This finding was found to be consistent with that of Kessler and Üstün (2008). Additionally, after two decades of the Cambodian refugees' settlement in the USA, studies showed that 71% of them exhibited psychological symptoms, meeting the criteria for PTSD and major depressive episode (MDE), while 86% suffered from major depressive disorder (Marshall et al., 2005).

In 2009, Kessler and colleagues conducted a comprehensive global survey of general populations for World Mental Health (WMH) in 17 countries and examined lifetime risk, lifetime prevalence rate, age of onset and the distributions of mental disorders. The results, when measured, indicated that in Palestine, Nigeria, and South

Africa, the lifetime prevalence was higher than for the other 14 countries due to duration and direct exposure to war related traumatic events. Across the 17 countries, the lifetime prevalence rate of anxiety disorders was estimated to be between 9.9 - 16.7%; for PTSD it was between 17% and 69%, with the highest ratios between 28 - 44%; for mood disorders it was between 9.8 - 15.8%; and for any anxiety disorder the range was between 18.1 - 36.1%. In the same survey Kessler and colleagues found mental disorders commonly occurring in middle age groups of the adult population, mainly initiated in childhood and/or during adolescence (Kessler et al., 2009). These findings are consistent with the on-going aggression in the Middle East countries, including Palestine in general and the Gaza Strip in particular. The findings also reported that all participating countries scored a high prevalence of mental disorders through all generations, including PTSD and depression.

Kessler and colleagues (2008) conducted an epidemiological survey with an aim to collect data from 28 countries to estimate the prevalence rates of PTSD and 12-month prevalence for mental illness. The estimated prevalence rate for mental disorders was 18.1% and included PTSD, depression, anxiety and substance abuse. The 12-month prevalence for serious mental illness was estimated between 9.8–19.1% (Kessler et al., 2008). The First National Co- morbidity Survey (NCS) replicated Kessler's findings. Most importantly, the results of both surveys indicated that the comorbidity of PTSD was strongly followed by other lifetime risk factors and prevalence disorders, which included major depressive and anxiety disorders, correlating with socio-demographic variables (Kessler et al., 2008).

Several studies have reported that the prevalence rate of depression ranges from 25% - 50% (Ducrocq, Vaiva, Cottencin,

Molenda & Bailly, 2001). For example, Mood disorders co-morbid with PTSD often occur one year after the traumatic event, with the duration usually lasting between three and six months, a finding similar to those of Fava & Davidson (1986) and Kessler et al. (2005). Epidemiologic complexity also shows the symptomatic association between PTSD and depression (Herman, 1992; Galea, Nandi, & Vlahov, 2005). All of the above findings are characteristically linked to depression (DSM IV-TR 2000).

From a practitioner's point of view, the frequent combinations of symptoms with other nonspecific ones are due to complexity (National Collaborating Centre for Mental Health (UK. (2005). For example, mood disorder symptoms merge into the regrouping of other depressive symptomatology, which creates difficulties in assessing major depressive disorder. Kessler and colleagues (1995) reported that clinicians and practitioners should consider both PTSD and depression during the initial diagnosis, including all levels of traumas, not just the most serious trauma (Greenberg et al., 2015).

Critically, the epidemiologic studies have provided a great deal of evidence that the prevalence rates of PTSD and major depressive disorder (MDD), depend on the type of exposure to traumas, duration, intensity and the chronicity of the traumatic event (Benjet et al., 2016; Morrison, Frame, & Larkin, 2003), ranging from 1% in the general population to 80% (Ducrocq et al., 2001). However, disagreement regarding conceptualisation amongst clinicians and researchers remains. For example, Bleich et al. (1997) and Shalev and colleagues (2009), claimed that diagnostic development is dependent on the nature of the traumatic event and its intensity, but not on chronicity. In contrast, another study revealed that there was, indeed, chronicity between PTSD and MDD, as exhibited in veterans and civilians. Without reference to chronicity, Kessler, in a thorough

epidemiological study of comorbidity, showed that 7.8% of adults showed a comorbidity of PTSD/MDD. Further, the prevalence rates for major depression increased from 48% to 51% and frequently occurred with PTSD combined with anxiety (Kessler et al., 1995; Kessler et al., 1996). Clearly, the empirical evidence, as supported by the majority of epidemiological studies, has proven that PTSD and depression are chronic conditions.

2.3 Development of Trauma and PTSD in the DSMs DSM-5 (2013)

In *The Diagnostic and Statistical Manual of Mental Disorders* (DSM-5, 2013) PTSD has been removed from the “*anxiety*” section and is instead, classified as a unique entity in a separated section: “*trauma-and stress-related disorder*” (APA, 2013). Moreover, DSM-5 substantially altered the criteria for the diagnosis of PTSD. The other diagnostic version texts, the International classification of mental diseases (ICD-10 1991), do not fully cover the diagnosis of PTSD (Andrews, Slade, & Peters, 1999; Kendell, 1991; WHO, 1992). However, the ICD-11, which is expected to be published in 2017, is likely to include a clearly defined classification (Bryant, 2015). The DSM-5 diagnostic criteria for PTSD in appendix A, Table 2.1, apply to adults, adolescents and children older than six years. Children under the age of 6 are also included as a preschool subtype in the DSM-5.

In DSM-5, the diagnosis of PTSD is assessed through a number of criteria and symptoms which need to be met (for a full criteria list see appendix A, Table 2.1). An individual must be exposed to direct or indirect trauma and experience symptoms related to this exposure from each of the following four criteria: (B) intrusion; (C) avoidance; (D) negative alterations in cognition and

mood and (E) alterations in arousal and reactivity. The (F) criterion concerns the duration of symptoms, i.e. one month at least is required after exposure, while the (G) criterion is that the symptoms must negatively affect the individual's day to day activities (DSM-5, 2013).

DSM-IV-TR (2000)

PTSD in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV TR 2000) is reported under the anxiety section (p.467). DSM-IV defined trauma and identifiable triggers that result in PTSD symptoms as exposure to one or more symptoms from the main three criteria of PTSD. Specifically, a person must meet two criteria and a number of symptoms from each of three clusters to be diagnosed with PTSD: Re-experience symptoms, avoidance symptoms and hyper-arousal symptoms. Criterion E concerns duration of symptoms and Criterion F assesses functioning. For the diagnostic criteria of PTSD in the DSM-IV – TR 2000) see the following table:

Table 2. 2: Diagnostic criteria for PTSD (DSM-IV-TR APA, 2000, p. 467).

<p>A1. The person experienced, witnessed, or was confronted with an event(s) that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others</p> <p>A2. The person's response involved intense fear, helplessness or horror</p> <p>B. Re-experiencing Symptoms (Requires one or more of):</p> <p>B1. Intrusive recollections</p> <p>B2. Distressing nightmares</p> <p>B3. Acting/feeling as though event were recurring (flashbacks)</p> <p>B4. Psychological distress when exposed to traumatic reminders (symbolise or resemble an aspect of the traumatic event)</p> <p>B5. Physiological reactivity when exposed to traumatic reminders (symbolise or resemble an aspect of the traumatic event)</p> <p>C. Avoidant/Numbing Symptoms (Requires three or more of):</p>

C1. Avoidance of thoughts, feelings or conversations associated with the stressor

C2. Avoidance of activities, places or people associated with the stressor

C3. Inability to recall important aspects of traumatic event

C4. Diminished interest in significant activities

C5. Detachment from others

C6. Restricted range of affect

C7. Sense of foreshortened future

D. Hyper-arousal Symptoms (Requires two or more of):

D1. Sleep problems

D2. Irritability

D3. Concentration problems

D4. Hyper-vigilance

D5. Exaggerated startle response

E. Duration of the disturbance is at least 1 month

F. the disturbance causes clinically significant distress or impairment in social, occupation, or other important areas of functioning.

Specify if:

Acute PTSD symptoms is less than 3 months

Chronic PTSD symptoms last 3 months or longer

With delayed onset symptoms: at least 6 months have elapsed between the traumatic event and onset of symptoms and requires significant distress or functional impairment.

2.4 Alteration and Comparison between DSM-5 (2013) and DSM-IV TR (2000)

Overall, the criteria and symptoms for PTSD in DSM-5 are mostly the same as in DSM-IV TR, (2000). Moreover, the classification and conceptualisation reflect their close relationship and overlapping symptoms. There are four main criteria for PTSD in DSM-5, with three additional symptoms, resulting in a total of 20 symptoms as compared with three criteria and 17 symptoms found in DSM-IV (illustrated in table 2.1 in appendix A and Table 2. 2). Regarding Criterion (C), avoidance and numbing, it is divided into two, with the new criterion (D) being labelled “Alterations in cognition and mood” and includes new symptoms: “persistent and distorted

blame of self or others, and persistent negative emotional state”. The separation was based upon extensive empirical research in clinical settings (DSM-5 APA, 2013; Friedman et al., 2011).

In DSM-5, Criterion (E), “Alterations in arousal and reactivity”, includes a new symptom, “reckless or destructive behavior”, while other arousal symptoms remain unchanged in both DSM-5 and DSM-IV. The requirement of these new criteria is that not less than two symptoms (of the seven total symptoms) must be diagnosed, after one month (after the initial exposure) for a PTSD diagnosis. Other symptoms of PTSD were revised and simplified. In DSM-5 the diagnostic criteria of trauma relate to stressors (Criterion A) followed after direct exposure to an extreme traumatic event, as in Criterion (A1), which covers the most distressing traumatic events and includes individual responses to these, such as after exposure to actual or threatened death and/or serious injury. These often lead to a variety of psychological distress issues. The diagnostic criteria in DSM-5 for PTSD require all conditions of direct exposure to extreme traumatic or stressful traumatic events to be met. In reference to DSM-5, the essential feature of PTSD symptoms relates to other criteria where all conditions, or type of traumas, are related to “actual or threatened death, actual or threatened serious injury. In addition, the “person is required to be exposed to one or more” of the diagnostic criteria for PTSD in DSM-5 (for a full criteria list see appendix A, Table 2.1).

Other changes and amendments to DSM-5 regarding PTSD criteria and symptoms include: the removal of Criterion A2, the response to a traumatic event involving “intense fear, helplessness, or horror”, because researchers concluded over time that this criterion has less influence on the diagnosis of PTSD than was previously thought (Miller et al., 2012) and hence, it did not improve

diagnostic accuracy in predicting the onset of PTSD (DSM-5 APA, 2013; Friedman et al., 2011; Hiskey, Ayres, Andrews & Troop, 2015). In DSM-5, the new criterion (F) (previously E) includes significant disturbances or impairment in social activities, the work place, and day- to-day normal functioning. In addition, in the clinical subtypes section of DSM-5, “with dissociative symptoms”, was added as a requirement to meet the criteria for PTSD and experiences of depersonalisation and derealisation symptoms were also added (Lanius, Brand, Vermetten, Freewn & Spiegel, 2012). Moreover, Criterion (F) requires duration of the disturbance (symptoms in Criteria B, C, D and E) is at least more than one month. Furthermore, as aforementioned, distinct diagnostic criterion for children aged 6 years or younger was added (DSM-5).

Staying with this comparative analysis, the prevalence rate of PTSD in DSM-5 is similar to that for DSM- IV criteria based on initial analysis (Miller et al., 2013). Similarly, the prevalence of PTSD in DSM-IV was found to be higher among women than men, according to the criteria in DSM-5 but the prevalence rate increased as a result of continuous direct exposure to traumatic event(s) (Kilpatrick et al., 2013). In a national sample of U.S. adults, Kilpatrick and colleagues (2013) found that the prevalence rates of PTSD according to the DSM-5 criteria were slightly lower than with the DSM-IV criteria owing to the inclusion of exposure to extreme traumatic event(s) in the former. However, the changes in the DSM-5 criteria for PTSD resulted in the following limitations:

1- Criterion A1 in DSM-5 did not include individuals' responses to an unexpected death in the family, or a close friend, due to natural causes. However, it was mentioned in DSM-IV, which another significant justification for the use of DSM-IV in a clinical setting (Kilpatrick et al., 2013).

2- The diagnosis of PTSD in DSM-5 must include at least one symptom from the avoidance ones. Moreover, the rationale of splitting Criterion C into two was to lessen the advantage of analysing overlapping symptoms in both DSM-IV and DSM-5 in clinical settings (Kilpatrick et al., 2013).

Indeed, the elimination of criterion A2 from DSM-5 is inappropriate for a number of reasons and situations. For example, survivors of wars, political conflicts or any natural disaster, often exhibit symptoms of extreme fear, helplessness, and/or horror, which are usually associated with additional stressors, such as distressing living conditions. Such individuals tend to go on to develop PTSD symptoms as a direct result of fear, helplessness, and/or horror (Kilpatrick et al., 2013).

Despite the difference between DSM-IV and DSM-5, the ICD-10 confirmed that assessment should still be based on a multi-axial and clinical approach, which is focused on a descriptive model from the type of medical categorical diagnosis based on a list of criteria characterised with clarity. This emerged as a result of the coherent combination of DSM-IV and ICD-10 (WHO, 1992). Currently, both the APA and WHO are committed to making both DSM-5 and ICD-11 diagnostically complementary (Wolf et al., 2015).

The DSMs' definitions of a 'traumatic event' have seen constant change since the original publication. Consequently, most definitions have similarities with slight distinctions reflecting past and current methodologies. Specifically, the definitions in all versions of the DSMs have focused on exposure to all types of traumatic events, for instance: primary and secondary stressors related to the traumatic events, followed by the nature of exposure, i.e. whether the exposure was directly or indirectly related to the traumatic events.

The field-tests have validated the use of the DSM-IV TR (2000) diagnostic criteria to predict the most traumatic events or risk factors, and have thus established the prevalence rate of PTSD among adults residing in the Gaza Strip. It was hypothesised that adults would report high rates of PTSD symptoms and greater psychological problems in relation to socio-demographic variables such as age, gender, residential location, war and siege, marital status and educational level. Four self-assessment scales validated in Gaza by Thabet et al. (2008) will be employed to supplement the DSM-IV TR (2000) diagnostic criteria.

2.5 Depression

In this study, the establishment of depression prevalence among Palestinian adults who continue to live under a prolonged exposure to war conflicts and blockade, will be based on the diagnostic criteria of depression in DSM-IV TR, APA (2000 p. 356) (see Appendix A, Table 2.3). These criteria have shown common variations associated with the individual's demographic features, such as: age, gender, marital status and education level, all of which are associated with every individual of a population (Lux & Kendler, 2010).

The Definition of Depression in DSM-IVTR (2000)

Depression is a common mental disorder, which is the leading cause of disability worldwide. It is a mental disorder characterised by a number of symptoms, including: persistent low mood, sadness, low self-esteem, loss of interest or pleasure in normally enjoyable activities, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration, inappropriate guilt as well as thoughts of death and suicide (DSM IV-TR 2000). According to DSM IV-TR (2000), these symptoms, if experienced for more than

two following weeks, may indicate depression (For the full diagnostic criteria for depression, see Appendix A, Table 2.3).

2.6 Types of Depression

Depressive disorder comes in different forms, and is classified on the basis of the severity and degree of the episode (DSM IV-TR 2000). The types of clinical depression are as follows.

Major depression

Major depression is the most severe condition. The definition includes all of the classic symptoms of depression (see Appendix A, Table 2.3), such as either sad or irritable mood, or anhedonia, along with at least one of the following symptoms: sleep disturbance (increased or decreased sleep), social withdrawal, negative thoughts or feelings of worthlessness, death and suicidal ideation. These symptoms must affect a person's ability to sleep, eat, work, and enjoy once pleasurable daily activities. The presence and severity of depressive symptoms can last for two weeks or more for the total score, items 1 - 4 are reflecting the severity of depression, and reflecting the diagnostic criteria of depression in the DSM-IV TR (2000). Most research indicates that depression rates in women are twice as high for men (Beck, Steer & Brown, 1996; Kessler et al., 2005).

Moderate to severe depression

In this type of depression, the individual persistently suffers symptoms comorbid with psychological, emotional feelings and somatisation complaints, as classified in DSM IV. According to Beck and colleagues (1996), a score of 20 – 28 is interpreted as moderate depression and 29 – 63 is interpreted as severe depression on the BDI-II. These scores have been supported by most of the research using the Arabic version of the BDI-II, especially in Palestine and

Gaza (e.g. Ghareeb, 2000, 1999; Al-Musawi, 2001, Kazem, & Alansari, 2008).

Mild depression

This category includes symptoms like self-doubt, poor peer relations, negative self-concepts, poor adjustment, poor coping skills, low self-esteem and social withdrawal. The score of 0 –13 on the BDI-II is interpreted as minimal range and 14 –19 as mild depression. Other types of depression are beyond the scope of this study, (i.e. dysthymia, depression with psychosis, post-natal depression and seasonal affective disorder).

Comorbidities of depression

Depression can be comorbid with a variety of mental health and medical conditions, including PTSD. For example, Shalev and colleagues (2014) reported in a prospective study that more than 40% of people with PTSD also had depression four months after the traumatic event, comorbid with anxiety disorders (Kessler et al., 1996). Diabetes, heart disease, cancer, alcohol and substance abuse (Grant, 1995) all commonly occur together with depression (Conway, Compton, Stinson & Grant, 2006). However, people with depression do not all experience the same symptoms. The severity, frequency and duration of symptoms will vary depending on the individual's strategies of coping and individual differences in personality traits regarding resiliency.

The literature highlights other countries' studies that share similar conditions with Palestinian adults living in the Gaza Strip (i.e. Lebanon, Israel and Iraq). This is followed by a review of a study on four post conflict countries (Algeria, Cambodia, Ethiopia, Palestine (including Gaza), conducted by de Jong, (2001 - 2003) and subsequently, analyses of the Balkan regions (Bosnia and Kosovo),

Africa (Uganda and Rwanda), and Asia (Sri Lanka and Cambodia). The daily stressors and societal conditions that arise, due to war and siege, are examined taking into account cross-cultural distinctions. Table 2.3 compares the prevalence of a range of lifetime PTSD among those who experienced a conflict-related war conflict and those who experienced a non-conflict related trauma. See the following Table 2.3

Table 2.3: the prevalence of PTSD in previous studies on adult populations

Authors	Date	Location	Primary findings	Conclusion
Benjet et al.	2016	In 24 countries worldwide: results from the World Mental Health Survey Consortium	Exposure to traumatic events has serious consequences for mental health. It is a precondition for the diagnosis of PTSD.	Suggested that the prevalence rates of PTSD and major depressive disorder (MDD), depend on the type of exposure to traumas, duration, intensity and the chronicity of the traumatic event
Lifton, Horowitz, .	1967	Returnees arriving back from combat zone.	War and siege, related stressors can be psychologically pervasive among individuals and communities, affecting their life quality	Clear evidence suggests that traumatic events can lead to psychological and related psychiatric disorders.
Wilson et al.	1998	War and siege regions	Found conditions of war and siege, along with economic deprivation, trauma with related stressors can be psychologically ubiquitous among individuals and communities, affecting their essential life activities and their long term aspirations	
	2013	Continuous exposure to war and siege related traumatic experiences	Increase in the prevalence of PTSD and other mental disorders	
Demyttenaere (see, WHO	2004	Currently, the WHO is undertaking a large-	Results from the 14 countries indicated	

Initiative)		scale survey of 26 countries worldwide	PTSD was very common after 12 months. The second most common disorder in all of the countries was depression, including major depressive disorder.	-
DSM-IVTR.	2000	All settings	Initial post-traumatic responses after a major disaster may be as high as 95% of those exposed to the traumatic event.	This percentage falls to 30-40% after a year post-event
Mollica et al. Mollica et al. Mollica et al.	2004 1998 1993	Refugee studies on the Cambodia-Thailand border	Indicated that more than 80% of the adults exhibited co-morbid depression and somatoform symptoms, despite good medical health care.	That there is a positive association between exposure to extreme traumatic events, PTSD, depression and anxiety among adults.
Marshall et al. -	2005 -	175 epidemiological studies have been conducted in developing countries on adults. Cambodian survey	Cambodian survey of 1000 participants, the findings indicated: after a decade of the absence of the traumatic events, 993 participants continued to exhibit psychiatric symptoms as a result of the initial accumulative trauma. It has been found that 71% exhibited psychological symptoms, meeting the criteria for PTSD, while 86% suffered from major depressive disorder. Furthermore, 86% of the Cambodian participants who had been diagnosed with major depression had PTSD.	In fact, symptoms of PTSD, depression and dissociative symptoms were pervasive, even after the absence of the war stressors. Suggested that Cambodian adults who had experienced war still met the criteria for depression even after 20 years of being relocated to the United States.
Kessler et al.	1995	A National Co-Morbidity Survey	84% of traumatised adults have suffered from other mental disorders during the course of PTSD, such as depression or anxiety.	
Greenberg et al. Ogle, et al.	2015 2013	War and post-conflict literatures	The findings indicate that the civilians who	This is because it is often difficult to predict which

Harsha et al.	2015		are living in the combat areas are more likely to be affected than their counterparts living away from such areas.	specific associated factors cause PTSD
Brewin et al. Greenberg et al. Kessler et al.	2000 2008 1995	War and conflict situation	People who live in conflict areas are more likely to develop PTSD and other mental disorders than was originally predicted.	-
UNRWA	2016	Refugee studies and populations living in war regions, post-conflict areas, near borders.	Since 1948, these refugees have been exposed to war-related traumatic events.	76% of the population of Gaza has been externally and internally displaced.
Kulka et al. Marshall at al.	1990 2005	Refugee studies conducted on Sudan's refugees, who were displaced in Uganda during the civil war (1978 to 1979),	Found that 29% met the criteria for PTSD and 79% for depression.	
Kessler et al.	2009	A comprehensive global survey of general populations for World Mental Health (WMH) in 17 countries.	Indicated that in Palestine, Nigeria, and South Africa, the lifetime prevalence was higher than for the other 14 countries due to duration and direct exposure to war related traumatic events. Across the 17 countries, the lifetime prevalence rate of PTSD it was between 17% and 69%, with the highest ratios between 28 - 44%; for anxiety was between 9.9 - 16.7%; mood disorders was between 9.8 - 15.8%; and for any anxiety disorder the range was between 18.1-36.1%.	The findings reported that all participating countries had a high prevalence of mental disorders in all generations, including both PTSD and depression.
Kessler et al.	2008	Conducted an epidemiological survey with an aim to collect data from 28 countries to estimate the prevalence rates of PTSD and 12-month prevalence for mental illness. The First National Co-morbidity Survey	The estimated prevalence rate for mental disorders was 18.1% and included PTSD, depression, anxiety and substance abuse. The 12-month prevalence for serious mental illness was estimated between 9.8 - 19.1%.	The results of both surveys indicated that the comorbidity of PTSD was strongly followed by other lifetime risk factors and prevalence disorders, which included major depressive and anxiety disorders, correlating with socio-demographic variables.

		(NCS) replicated.		
Kessler et al. Morrison et al. Ducrocq et al. Fava et al.	2005 2003 2001 1986	Epidemiology-PTSD, post-traumatic depression and major depressive disorder: About literature.	Several studies have found that the prevalence rate of depression ranges from 25% - 50%. Mood disorders co-morbid with PTSD occur one year after the traumatic event, with the duration usually lasting between three and six months and ranging from 1%-80% in the general population.	-
Kessler et al.	2005,1 996,19 95	In the USA, epidemiological study of comorbidity	The estimated life-time prevalence of PTSD among adults is 7.8%. With women it was 10.4%, in men it was 5%. The studies showed that 7.8% of adults showed a comorbidity of PTSD/MDD. Further, the prevalence rates for major depression increased from 48% to 51% and frequently occurred with PTSD combined with anxiety	Women are twice as likely as men to experience PTSD at some point in their lives. Clearly, the empirical evidence, as supported by the majority of epidemiological studies, has proven that PTSD and depression are chronic conditions.
Kessler et al	2005,1 996,19 95	In the same survey, In the USA, epidemiological study of comorbidity	Indicated that 78% of adults showed a comorbidity of PTSD with depression and other psychiatric disorders. Further, the prevalence rates for depression increased from 48% to 51% and frequently occurred with PTSD combined with anxiety.	
Bisson	2007	UK	The prevalence of PTSD was estimated between 1.5% and 3%. the NHS has reported that PTSD has affected up to 30% of people after a traumatic event, and about 40% after a sudden loss of a loved one.	-

Demyttenaere, Ishikawa et al.	2004 2016	Nigeria, China, Japan, and Italy	These countries had moderate prevalence rate between 0.5% - 9.4%. Lower still was Asia, where prevalence rates were between 0.4% – 7.7%. The global prevalence of PTSD in 24 countries was 75%.	Prevalence was positively associated with to the type of trauma, the nature of exposure, the individual's negative interaction to the vulnerability of each culture. These factors explained the variation of the lifetime prevalence of PTSD symptomology.
Duckers et al.	2016	In the current global survey		
Breslau et al.	2000	In a National Comorbidity Survey	83% of the respondents met the criteria of PTSD and at least one other mental disorder. Males reported higher rates at 88% and females reported 79%.	
Creamer et al.	2001	Australian National Survey of Mental Health	Found 85% of the females with PTSD had other mental disorder, whilst only 80% of males with PTSD also had depression.	
South Lebanon,	1980s	9 comprehensive epidemiological surveys were conducted in conflict and- post conflict nations worldwide	In all countries, research indicated a significant general impairment in cognitive functioning in adults, as well as variations of the lifetime prevalence rates for PTSD and depression worldwide.	A common feature was that, in all countries, research indicated a significant general impairment in cognitive functioning..
Farhood et al.	2006	Lebanon	Found that the prevalence of PTSD was 29.3% among adults.	-
Karam, et al.	2008	2 years after the 2006 Israeli-Lebanon war, a national survey.	Found the prevalence rate of PTSD among civilian adults to be 3.4%.	
Karam et al.	1996 - 1998	Worldwide survey was conducted in 10 countries: in Lebanon	The lifetime prevalence of PTSD was a major contributor to depression with variations in rates between 16.3% and 41.9%. The main predicted factors was related to exposure to war trauma and	

			individual history of major depression.	
Alhasnawi et al.	2009	In Iraq,	The prevalence of PTSD was 13.1%	
Hashemian et al.	2006	In Iran,	The lifetime prevalence rate of PTSD was 59% and then declined to 33% among Iranians who were exposed to the Iran-Iraq War (1980-1988).	-
Bleich et al.	2006, 2003	In Israelis, 2 years after the Israel-Lebanon war 2006	Found that after 44 months of the initial exposure to war trauma, the prevalence of PTSD was 9.4% of the adult population of Israel	Highlighted war and conflict as a major stressor in relation to PTSD symptoms.
Dekel et al.	2010	In Israel	76.7% of people experienced at least one traumatic stress-related symptom.	This suggests that PTSD rates declined because of the absence of the stressors of war
Neria et al.	2010	In Israel, three-wave longitudinal study before and after the Israel-Gaza war (2008-2009).	Found that the prevalence of PTSD had strongly declined from 20% during the war to 3% at 2 months, and 2.2% at 4 months after war.	-
Gelkopf et al.	2008	In Israel, examined the prevalence rates of PTSD among adult Arabs and Jews. The sample of 512 participants was examined at different times.	Found prevalence rates of PTSD after 19 months: 5.9% among Arabs and 10.2% among Israelis. After 44 months, 16.9% of the Arab sample and 7.4% of the Jewish sample met the criteria for PTSD.	-
Hobfoll et al.	2008	In Israel	Found after 4 years of the second Intifada that 6.6% of Jews and 18% of Arabs were diagnosed with PTSD.	-
De Jong et al.	2001-2003	Comparative epidemiological survey in four post conflict countries: Algeria, Gaza, Cambodia and Ethiopia	Found in the Algerian sample that the lifetime prevalence rate of PTSD was 37.4%. Gaza was 17.8%, Ethiopia was 15.8% and the Cambodia was 28%.	Living in prolonged and continuous exposure to political conflicts showed markedly higher rates of PTSD, depression and other mental disorders, higher than countries where such conditions did not exist.
Thabet et al	2013	In Gaza	66.6% was the highest	

Thabet et al.	2008	Gaza	prevalence rates for PTSD have been attributed to frequent war. It was found that 46% of parents behaved aggressively towards their children	People who scored more on siege items scored less on quality of life, in the physical, psychological, social, and environmental domains
Thabet et al.	2008	Gaza siege studies	Found that 42.7% of participants were unemployed before the siege, 18.8% unemployed because of the siege and 25.1% of family members suffered from chronic illnesses.	
Madianos et al.	2012, 2011	Gaza and the West Bank	Found that the most frequent mental disorder was chronic PTSD, with a prevalence rate of 18.7%, and a co-morbidity of 26.5% with depression; additionally, 6.1% suffered from lifetime chronic depression.	The findings have proven that residential location as an independent variable is a strong predictor of PTSD, depression and anxiety.
El-Sarraj et al. Thabet Khamis	2005 2009 2015	In Gaza, People living in the refugee camps	Exhibited high rates (84.1%) of PTSD symptoms and depression, which were higher than their counterparts living outside of the refugee camps, where 15.8% reported these symptoms	Living under prolonged mass violence and economic ruin has led to high rates of PTSD comorbid with depression and other mental disorders amongst adults
Lubad et al	2009	Gaza siege studies amongst adults population	The highest siege-item scores were the price of goods (97.8%), being in a big prison (92.2%), not finding things in the market (91.7%). These results showed significant negative correlation between total siege scores and quality of life.	Found that the socioeconomic conditions deteriorated due to closure of the borders, which in turn affected the quality of life.
Cardozo et al.	2000	Balkan studies: Kosovo and Albanians	The lowest prevalence rate of PTSD in post-conflict countries was found amongst Kosovo and Albanians	-

Cardozo et al Powell	2004 2003	Afghanistan Bosnia	17.1% PTSD prevalence was 42.1% PTSD prevalence was38.6%.	-
Pham	2004	African studies: Rwandans surveys	Found PTSD prevalence rates was 24.8%	Each conflict has a different duration, cause and exposure profile, meaning that the likelihood of experiencing trauma is different in different regions.
Vinck Pfeiffer	2011 2007	Ugandans	PTSD prevalence rates was54%	

2.7 Post – Conflict Environments in Different Countries

In the 1980s, nine comprehensive epidemiological surveys were conducted in conflict and- post conflict nations worldwide. A common feature was that in all cases, in all countries, research indicated a significant general impairment in cognitive functioning in adults as well as variations of the lifetime prevalence rates for PTSD and depression worldwide. In 1996, another worldwide study was conducted in 10 countries with similar findings (Karam et al., 1998). Socio-demographic variables, such as age, gender, and educational categories have been assessed to predict the prevalence rates of onset of PTSD and depression in adults.

From Lebanon to the Gaza Strip the effective prevalence rates of depression and PTSD after episodic trauma exposure, according to predictive variables, remain high after the civil war (1975 to 1990). The Lebanon results have notable variations of the lifetime prevalence for major depression across the four regions of Lebanon (16.3% to 41.9%). Gender differences were also reported, with the highest prevalence rates of the onset for depression in females being 28% and in males 17% (Diaz, Murthy & Lakshminarayana, 2006; Karam et al., 1998). Moreover, war events have a direct effect on the development of co-morbidity in regards to the onset of PTSD (Weissman et al., 1994). In Israel, Bleich,

Gelkopf, and Solomon (2003) reported that 76.7% of people who were exposed to war-related trauma have experienced at least one traumatic stress-related symptom. Another study conducted in Israel highlighted war and conflict as a major stressor in relation to PTSD symptoms (Dekel & Monson, 2010). Neria and colleagues' (2010) three-wave longitudinal study found that the prevalence of PTSD had strongly declined from 20% during the war to 3% at two months, and 2.2% at four months after the 2009 war (Palestinian and Israel). This suggests that PTSD rates declined because of the absence of the stressors of war. The history of multiple traumatic experiences has increased the prevalence rates of mental disorders among Iraqis (Murthy, 2008). In Iraq, the estimated lifetime prevalence of any mental disorder meeting the criteria of diagnosis in DSM-IV was found to be 18.8% (Alhasnawi et al., 2009). Finally, the most common disorders found in Alhasnawi and colleagues' study (2009) are major depression (51%), followed by general anxiety disorder (GAD) (24.9%), phobia (21.1%), obsessive compulsive disorder (OCD) (19.2%), PTSD (13.1%), panic disorder (11.5%) and other disorders (10.8%).

In Rwanda, Pham, Weinstein and Longman (2004) examined the prevalence of PTSD, and the association between different traumatic events among Rwandan adults. Their findings revealed that 24.8% of surviving adults with PTSD met the criteria of DSM-IV (2000). In Uganda, it emerged that accumulative exposure to traumatic events increased the risk of PTSD. The study revealed 58% of the participants exposed to war-related traumatic events met the criteria of DSM-IV (Pham and colleagues, 2004). These findings were found to be consistent with the majority of studies in war conflict areas (Neuner et al., 2004). In the years of the Balkan war, a cross sectional study identified associations between war, and

mental health, this included depression, PTSD and somatisation (Mollica, Caridad, & Massagli, 2007). Among Kosovar Albanians adults, 17.1% of the sample had experienced PTSD symptoms (Lopes et al., 2000). In a cross-sectional study regarding the psychological impact after three years of siege in Bosnia, it was reported that the participants were exposed to an average of 24 traumatic events: 18.6% met the criteria of DSM-IV for mental disorders; 38.6% developed PTSD; and a further 32.7% undertook medical treatment (Powell, Rosner, Butollo, Tedeschi & Calhoun, 2003). The General Health Questionnaire (GHQ-28) was used to assess the mental health of Serbians who remained living in Kosovo. It was showed that women exhibited greater symptoms in the subscale of social dysfunction than men and were more likely to report severe depression. They were also more likely to have psychiatric morbidity (Holtz, Salama, Cardozo & Gotway, 2002). Experiences of these mental disorders were associated with gender (females reported more difficulties), location and also, the lack of social support (Hodes, Jagdev, Chandra & Cunniff, 2008). Other epidemiological surveys in Sri Lanka indicated that 46% of the population suffered from mental disorders, including: somatisation symptoms (41%); PTSD (27%); anxiety (26%); major depression (25%); and disability (18%). Only 6% of the participants had not experienced any war events (Somasundaram & Jamunanatha, 2002).

In Afghanistan, two important studies were conducted. The first found that adult participants exhibited significant symptoms of a variety of mental disorders, including: anxiety (72.2%); depression (67.7%); and PTSD (42%), (Cardozo et al., 2004). The second study reported a high prevalence of anxiety (51.8%), depression (38.5%), and PTSD (20.4%) among the participants (Schulte and colleagues

2004), Both studies reported a positive relationship between ongoing exposure to war and high rates of PTSD, depression, and anxiety. They also both confirmed that people used religious and spiritual beliefs as a coping strategy.

Comparative Studies in Four Post-Conflict Countries

De Jong and colleagues' (2001-2003) comparative epidemiological survey in Algeria, Palestine (Gaza), Cambodia and Ethiopia found that the common risk factor of exposure to threat, and/or the actual experience of violent acts, are followed by the individual, family members, and communities, suffering symptoms of PTSD. The risk factors are nearly always associated with demographic variables, such as gender and age as well as socioeconomic and political variables, which are similar or at least not dis-similar, to conditions experienced or witnessed in the four areas of the Gaza Strip. For instance, De Jong and colleagues found in the Algerian sample that the lifetime prevalence rate of PTSD that met the diagnosis criteria of DSM-IV was 37.4%. (Gaza comparably was 17.8%; De Jong et al., 2001-2003), In the case of Ethiopia, the lifetime prevalence rate of PTSD, according to the same criteria, was 15.8%, which met the diagnosis criteria of the DSM-IV. Again, females showed higher rates of PTSD than males. The main risk factors found in Ethiopia were war violence, rape, poverty, and poor quality of life. In the Cambodian study, the findings reported that the lifetime prevalence rate of PTSD, which met the diagnosis criteria of DSM-IV, was 28%. Notably, the diagnostic validity of the PTSD criteria indicated a high level of avoidance symptoms among Cambodian adults; indeed, PTSD increased with dissociative symptoms (De Jong et al., 2001).

Other Cambodian studies which focused on displaced refugees on the Cambodia-Thailand border indicated that more than

80% of the adults exhibited co-morbid depression and somatoform symptoms, despite good medical health care (Mollica et al., 2004). Indeed, accumulative trauma continued to affect Cambodian adult refugees even after the original trauma stressors had disappeared for decades (Mollica, McInnes, & Poole, 1998). The results of these studies support and validate the proposal that there is a positive association between exposure to extreme traumatic events, PTSD, depression and anxiety among adults.

De Jong and colleagues (2003) found that as a consequence of living in prolonged and continuous exposure to political conflicts with internal displacement, participants showed markedly higher rates of PTSD, depression and other mental disorders, consistently higher than countries where such conditions did not exist. If the conflict persisted, then lack of social support was a considerable risk factor for PTSD (Hodes et al., 2008). When we consider all the above results, types and severity (intensity, and duration) of exposure to traumatic events in relation to cross-cultural distinctions, risk factors and demographic variables, the percentages of those individuals suffering from moderate or severe PTSD was and remains similar to the results found among the same groups in Gaza. This reaffirms the universal fact corroborated by many studies, that when exposed to war, conflict and siege, individuals are vulnerable to mental illness, particularly PTSD comorbid with depression and somatic symptoms. So that without early intervention and social support the individual will possibly develop chronic PTSD with maladaptive consequences in their familial, societal, and communal relations.

There are several factors that may lead to an increase in PTSD and depressive symptoms among adults living with constant exposure to war and siege. Previous studies have presented many

cross-cultural studies and conclusions. These important findings have assisted this researcher in identifying the most effective traumatic stressors in the ongoing war scenario and prolonged siege situation for Gazan adults. There are several traumatic factors that are more likely to lead to an individual's (regardless of gender, age and other demographic factors) increased probability of experiencing PTSD and depressive symptoms.

Comparative Studies of PTSD in Gaza

A few studies examined the relationship between siege, quality of life and the general psychiatric disorders among the Palestinian adults in the Gaza Strip. These studies showed significant negative associations between siege and quality of life as well as related psychological problems.

An important study conducted in Gaza by Thabet, Abu Tawahina, El Sarraj, and Vostanis, (2008) found that the socioeconomic conditions deteriorated due to closure of the borders, which in turn affected the quality of life. It was found that 42.7% of the participants were unemployed before the siege, 18.8% unemployed because of the siege and 25.1% of family members suffered from chronic illnesses. Additionally, the reliance on food programs from UNRWA and other charity foundations, with limited resources, accumulatively led to high rates of PTSD and depression. This was associated, with psychological stressors, such as the "feeling of being in a big prison", and dependency on resources, such as 'Zakat' (Islamic charity concept) for supplies of food. These accumulative stressors related directly to other mental disorders, such as depression and anxiety (Lubad & Thabet, 2009). The highest siege-item scores were the price of goods (97.8%), being in a big prison (92.2%), not finding things in the market (91.7%), "I stopped purchasing goods required to severe daily needs" (88.3%)

and social visits were “less than before” (85.2%). These results showed significant negative correlation between total siege scores and quality of life.

That is, people who scored more on siege items scored less on quality of life, in the physical, psychological, social, and environmental domains. The average scores of life quality were 64.2%, physical 18.4%, psychological disorders 17.7%, social 8.7%, and environmental 19.5%. Accordingly, participants who suffered chronic mental and physical illness were generally unemployed as indicated by the above statistics. Siege-effects, then, are strong predictors of negative impacts on general health. Furthermore, the long-standing siege on the Gaza Strip has caused extreme economic hardship, high unemployment and poverty, which has had a knock-on-effect on socio-demographic factors (e.g. marital status, residential location and educational levels).

The current research study will examine eight years of siege and its impact on the mental health among Palestinian adults in Gaza. Siege caused by man or nature, as was the case during Hurricane Katrina when the inhabitants New Orleans were engulfed and besieged by water, or in Kosovo, where there was the so-called “quiet-siege”, has an impact on the mental health of the inhabitants. In all these cases, symptoms of PTSD, depression, and anxiety were common and negative concomitants.

2.8 Risk Factors Leading to Complex PTSD – Gaza

War and prolonged blockade are, by their nature, extreme stressors that induce forms of trauma (Al-Krenawi et al., 2007; Neria et al., 2010). Distressing living conditions among civilians in Gaza over time have had a strong potential for causing PTSD. Consequently, in Gaza, the diagnosis of PTSD is restricted to those

who have been exposed directly or indirectly to extreme life threatening and continuous traumatic events. These findings of the individual's experience of intense fear, helplessness or horror are supported by the definition of trauma in the DSM-IV (Criteria A1 and A2, APA, 2000, p.467) (see also, Fullerton, Ursano & Wang, 2004, 1994; Straker, 2013). Further, PTSD symptoms can result from risk factors including loss of home and job (DSM-5, 2013; Ender, 2010). Moreover, the direct exposure to continuous military occupation, war, prolonged armed blockade, (Thabet, et al., 2008). torture (El Sarraj et al., 1996; Neria et al., 2010), imprisonment (Gorst-Unsworth & Goldenberg, 1998; Punamaki et al., 2009, 2004) and house demolitions (Parvaresh & Bahramnezhad, 2009; Thabet et al., 2009; Qouta, 2005) lead to increase PTSD symptoms (e.g. Basoglu et al., 1994; de Jong et al., 2001; Farhood et al., 2006; Hagh-Shenas et al., 2006; Moisander & Edston, 2003). The direct exposure to actual threat includes paramedics exposed during rescue operations and repeated exposure to events, such as collecting body parts (APA, 2000, p.467). These traumatic events hold a strong potential for increasing PTSD symptoms among adults in the Gaza Strip (e.g. Punamaki et al., 2009, 2004; Sham'a et al., 2015; Thabet et al., 2013, 2009, 2008).

Several general studies have focused on the risk factors associated with the development of PTSD in adults. For example, Breslau (2009, 2002, and 1998), Benjet et al. (2016) and Foa et al. (2008) proposed that the comorbidity of psychiatric mental disorders depends on a number of such factors, e.g. type of trauma, type of exposure, severity, life threatening situations and duration. These aspects, in turn, can lead to individual and societal disruption. The prevalence rate of PTSD is associated with various risk factors, for example: the severity of a traumatic event, the individual's reaction,

and the lifetime prevalence. These risk factors contribute to the increase of the prevalence rate of PTSD (Brewin et al., 2000; Ozer Best, Lipsey, & Weiss, 2008). These risk factors have a negative effect on individuals' mental, physical, and general well-being (Armistead-Jehle, Johnston, Wade & Ecklund, 2011; King, King, Bolton, Knight, & Vogt, 2008).

The majority of the epidemiological studies emphasise that the potential effect size of the intensity of a traumatic event has on the development of PTSD (Brewin et al., 2000; Ozer et al., 2003; Summerfield, 2000, 1999), comorbid with depression and physical problems (Strauss, Dimassi, & Farhood, 2013) and PTSD can occur at any age (Brewin et al., 2000).

Therefore, these studies indicated that the potential risk factors for PTSD were limited in adults exposed to traumatic events and identified the following risk factors: age, gender, socioeconomic status, education, previous individual history, family history, trauma severity, post-trauma, life stress and lack of social support. These risk factors were considered a common effect size for trauma and PTSD (Brewin et al., 2000). The limitation of the identified risk factors lies in the fact other potential variables are not considered, e.g. place of residence, employment, and poverty. Consequently, the association between all the factors including the other potential predictor variables also have the strong potential to give rise to and predict prevalence rates of PTSD in adults who have been exposed to these forms of extreme traumatic experiences.

In Palestinian society, particularly in Gaza, the exposure to direct or indirect trauma is common (El-Sarraj & Qouta, 2005; Khamis, 2005 Thabet et al., 2009, 2008). The risk factors or potential variable predictors in Gaza are the following: ongoing war, and the concomitant threat of attack, armed blockade, life-threatening

situations, and unexpected death by drones, permanent disability, house demolition, imprisonment, and torture (Abu Hien, 2009, 2008, 2007; El-Sarraj & Qouta, 2005; Khamis, 2005; Punamaki, Qouta, & El-Sarraj, 2001; Thabet et al., 2009, 2008). Socio-demographic variables (e.g. age at the time of trauma, gender, marital status, residential location, educational level, unemployment and socioeconomic status). It must be noted that the continuous and direct exposure to war along with the prolonged blockade affect many individuals negatively, often resulting in long-term mental disorders (Brewin, 2003; Wilson & Raphael, 2013).

Consistent with previous findings, socio-demographic variables play a significant role as risk factors for the prevalence of PTSD and depression. For example, in terms of age, where there has been continuous exposure to traumatic events of war and siege, then the onset age of the disorder starts in early childhood and adolescence (Kessler et al., 2005; Thabet & Vostanis, 2004). Results reported that 37.2% of Palestinian adolescents and 6.8% of Israeli adolescents met the diagnostic criteria for PTSD (Pat-Horenczyk et al., 2009). In relation to gender, where there has been political conflict, married women showed higher lifetime prevalence rates of PTSD and depression, especially those married women who had lost their husbands to war (Thabet et al., 2009, 2008). Where men have been directly exposed to war trauma, they generally showed higher rates of PTSD (Hobfoll et al., 2008; Kessler et al. 2008, 1995). Place of residency in any particular country that has experienced conflict and post-conflict environments has a significant influence on the prevalence rates of PTSD (Mollica, McInnes, Poole, & Tor, 1998; Perkonigg, Kessler, Storz, & Wittchen, 2000; Thabet & Vostanis, 1999). Marital status, educational levels, and the exposure to cultural risk factors have more influence on females than males

(Amir & Sol, 1999; Lester, 2010; Breslau et al., 1998). The low level of education in both males and females in general, but females in particular, has shown to be a strong risk factor for experience of PTSD symptoms and an increase in the lifetime prevalence rate of PTSD among adults group (Farhood & Dimassi, 2012; Hall et al., 2008; Iversen et al., 2009; Tolin & Foa, 2006; Saab et al., 2003). These variables, then, are to be found as risk factors in political conflicts and direct or indirect exposure to war areas.

There are various PTSD risk factors, PTSD rates, depression, anxiety, and other mental disorders show differentiations depends on exposure, severity, intensity, and duration of the traumatic event (Greenberg and colleagues, 2015). Consideration of internal and external demands is the required procedure in prevention of an individual developing the symptoms of PTSD (Lazarus et al., 1984).

Today, PTSD, depression, and anxiety are common global disorders, affecting groups within any population at some point in their lifetime (WHO, 2001). Indeed, this has been substantiated by the majority of worldwide studies. According to the DSM-IV, 450 million people will meet the criteria for PTSD worldwide. Currently, since 2004, the WHO is undertaking a large-scale survey of 26 countries worldwide – Gaza is not included – based on the Composite International Diagnostic Interview (WMH-CIDI) and DSM-IV-TR (2000) criteria (Weinberg et al., 2012). The first released figures on the 14 country surveys completed to date indicate that the prevalence rate for anxiety disorder, including PTSD, was high and a common in all of the countries in the previous 12 months (18.2%) (Demyttenaere, 2004; see also The World Mental Health Survey Initiative). The second most common disorder in all of the countries was depression, including major depressive disorder.

Mental disorders worldwide vary between 1.8% - 9.7% (Kessler et al., 2008). In the USA, the estimated life-time prevalence of PTSD among adults is 7.8%. With women it is 10.4%, in men it is 5% (Kessler et al., 1995). Another comprehensive US national survey by Kessler and colleagues (2005) found that 1 in 10 women experienced PTSD, whereas only 1 in 20 men experienced PTSD symptoms at some point of their lives. It was therefore concluded that women would be twice as likely as men to experience PTSD at some point in their lives. Similarly, the prevalence of PTSD in the UK was estimated between 1.5% and 3%. However, Nigeria, China, Japan, and Italy had a moderate prevalence rate between 0.5% - 9.4%. Lower still was Asia, where prevalence rates were between 0.4% – 7.7%, yet the severity of symptoms was found to be higher (Demyttenaere, 2004; Ishikawa, Kawakami, & Kessler, 2016).). These results were also found consistent within the UK; the NHS has reported that PTSD has affected up to 30% of people after a traumatic event, and about 40% after a sudden loss of a loved one (Bisson, 2007). The prevalence of having any WMH-CIDI/DSM-IV disorder in the prior year varied widely, from 4.3% in China to 26.4% in the United States.

It is recognised that common mental disorders are overestimated in the developing countries because of poor diagnostics, lack of access to mental health services, and differences in methodologies. For example, self-reporting questionnaires rather than Structured Clinical Interviews (SCID) for the DSM-IV were used. In the current global survey Duckers, Alisic, and Brewin (2016) found that the prevalence of PTSD in 24 countries was 75%, it was related positively to the type of traumatic event, the nature of exposure, the individual's negative interaction and/or to the vulnerability of each culture. Consequently, these

factors explained the variation of the lifetime prevalence of PTSD symptomology.

Exposure to War-Related Traumatic Events

Historically, living in difficult situations under armed conflicts, military occupation, and prolonged blockade as in Gaza, can lead to PTSD, anxiety, and depression (Elbedour et al., 2007; El-Sarraj & Qouta, 2005; Thabet et al., 2008). It is common that psychological trauma and PTSD usually follow exposure to sudden and unexpected traumatic events. Clinical PTSD occurs after accumulative and continuous exposure to extreme traumatic events over a number of years (Kessler et al., 2005; Herman, Shiner, & Friedman, 2012; Resick et al., 2003) and is co-morbid with other psychological problems, such as major depressive disorder (MDD), anxiety, obsessive compulsive disorder (OCD), and substance abuse. The consequences after exposure to repetitive war-related traumatic events is various and unpredictable. Leading to high prevalence rates of co-morbid PTSD, they include psychological, physical, emotional, and stressful living conditions, such as social impairment and lack of social support.

The expected outcome of war-related traumatic events and unstable situations in Gaza has affected almost all population groups and the mental health services. People in Gaza are experiencing traumatic events resulting from repetitive exposure to war and eight years of blockade. The most common and disabling disorders associated with exposure to war-related traumatic events are PTSD and depression. These traumatic events involve the threat of death or serious injury, as well as threat to the health and integrity of the self or others, to which individuals respond with intense fear, helplessness, or horror (APA, 2000). It was indicated that most

people experience at least one traumatic event during their lifetime, and some of them will develop PTSD.

Little is known about the impact of trauma in post-conflict countries, so it is difficult to establish the prevalence rates of and risk factors for PTSD in post-conflict and development countries, where people have survived multiple faces of traumatic experiences. These traumatic events, psychiatric symptoms, and the prevalence rate of PTSD, depression, and anxiety were found to be consistent with the Palestinian studies (e.g. Abu Hein, 2008, 2007; Elbedour et al., 2007; Punamaki et al., 2005; Joma'a & Thabet, 2015) by meeting the diagnostic criteria of DSM-IV-TR (2000).

Political Conflict and Mental Disorders in Gaza

Extreme traumatic events occur in situations, such as war and/or conflict areas; these events can prove overwhelming, with individuals remaining in a state of extreme danger and fear even post-conflict. In the case of the Gaza war and political conflict, adults as well as the rest of the population live in repetitive exposure to airstrikes, invasions, death, and daily threat of unexpected attacks. People live in very stressful conditions and the whole of the population suffers from lack of resources as a consequence of the current blockade (UNRWA, 2016).

Thus, for every passing day, the rate of general anxiety, stress, and the risk factors for the development of PTSD and other psychiatric disorders are increasing. The consequences of the continuous aggression affects the whole society negatively, and because there is a delay in the treatment of affected people, the risk of the symptoms developing into a chronic state becomes greater, which in turn makes symptoms more difficult and costly to treat (Brunello et al., 2001; Kashdan, Morina & Priebe 2009; Solomon & Davidson, 1997,1995).

Some individuals are more resilient than others and hence their responses to the stressors are more measured. In the short term, during the exposure to traumatic events, adults tend to mix-up normal feelings and experiences, with feelings of intense distress symptoms resulting from prolonged exposure, such as helplessness, avoidance, numbness, hyper-arousal, negative emotion and an altered consciousness that entails a sense of de-realisation and depersonalization (DSM-IV). In the long term, during the exposure to an extreme traumatic event, adults tend to develop acute stress disorders (De Jong et al., 2003; Thabet et al., 2015; 2014; 2009; 2008; Qouta & El Sarraj, 2007). Moreover, they can develop PTSD (Friedman & Jaranson, 1994), and depressive disorders (Westermeyer, 1989), panic disorder, generalised anxiety, antisocial and other personality disorders, as well as psychosis (Davidson & Foa, 1991; Halbauer, Ashford, Zeitzer, Adamson, Lew, & Yesavage, 2009).

Most of the previous research in Gaza has indicated that PTSD co-morbidity is common (De Jong, 2001; Thabet et al., 2009, 2008, 2004). Furthermore, several studies have showed that PTSD combines with one or more mental disorders, including depression and anxiety disorders (Davidson & Foa, 1991; Helzer, Robins et al., 1987; Kessler et al., 1995; Somasundaram & Sivayokan, 1994) and somatoform conditions (McFarlane, Atchison, Ralafowicz, & Papay 1994).

Despite co-morbidity of PTSD, diagnoses vary between countries depending on the aims of the research, the type of traumatic event, the nature of stressor and the person's interaction or to the cross-cultural vulnerability (Duckers et al., 2016), the measurement scales, and the degree of bias (De Jong, 2001; Kessler et al., 2005). Palestinians often experience a combination of

PTSD, depression, and anxiety (Abu Hein, 2009; Khamis, 2003; Thabet, Qouta & El Sarrj, 2009, 2008). Ex-prisoners who have experienced torture often exhibit a combination of severe PTSD and depression (El Sarrj, Punamaki, Salmi & Summerfield, 1996).

2.9 Lifetime Prevalence Rates of PTSD in Gaza and Israel

Prevalence rates of PTSD associated with such traumatic events vary across children and adolescent studies. For example, that for the prevalence rate of PTSD in the Gaza Strip was found in one study to be 70.1% for children and adolescents (aged between 9 and 18 years), as a result of exposure to the ongoing Israeli-Palestinian military conflict (Thabet et al., 2008). See Elbedour et al. (2007). A study among adolescents was conducted by Abdeen, Qasrawi, Nabil and Shaheen (2008) on the West Bank (Palestine), in East Jerusalem and the Gaza Strip ($n = 2,100$). The findings reported that the prevalence rates of PTSD were 35 - 36%. Another study conducted in the West Bank the prevalence of PTSD among Palestinian adolescents was found to be 34.1% (Khamis, 2005).

A previous Palestinian longitudinal study has been conducted by Thabet and Vostanis, (2000), examined the prevalence rates of PTSD among children aged between 7 and 12 years after one year of the peace process (1993), between Israeli-Palestinian. The results indicated that the prevalence rates of PTSD decreased from 40.6% to 10%. Shalev, Tuval, Frenkiel-Fishman, Hadar & Eth (2006) examined the types of exposure to conflict among Israelis. The study outcomes suggested that after 10 months of exposure to the second Intifada the rates were 27% (direct exposure) and 21.4% (indirect exposure), whilst after 44 months of the conflict, the PTSD rate was found to be at 9% in Israeli residents (Bleich et al., 2003).

In Israel, Gelkopf, Solomon, Berger, & Bleich (2008), in two distinct cross-sectional samples, examined the prevalence rates of PTSD among adult Arabs and Jews. The sample of 512 participants was examined at different times. At the end of the second Intifada, 501 participants showed prevalence rates of PTSD after 19 months: 5.9% among Arabs and 10.2% among Israelis. After 44 months, 16.9% of the Arab sample and 7.4% of the Jewish sample met the criteria for PTSD. Four years after the second Intifada, Hobfoll, and colleagues (2008) indicated that 6.6% of Jews and 18% of Arabs were diagnosed with PTSD.

In other areas with similar political conflict, studies reported high prevalence rates of PTSD among adults. For example, in South Lebanon, Farhood and colleagues (2006) indicated that the prevalence of PTSD was 29.3% among adults. Twenty percent of the internally displaced Turkish Cypriot adult refugees, during the ethnic conflict of the 1963 and 1974 wars, and nearly three decades after the event met the criteria for PTSD (Ergun, Cakici, & Cakici, 2008). In Iran, the lifetime prevalence rate of PTSD was 59% and then declined to 33% among Iranians who were exposed to high-intensity warfare during the Iran-Iraq War (1980-1988) (Hashemian, Khoshnood, Desai, Falahati, Kasl & Southwick, 2006).

Several studies have examined the prevalence of PTSD in the general population of the Middle East in three stages: before, during and after the exposure to traumatic events. Neria et al. (2010) conducted a three-wave longitudinal study in Israel, which examined the prevalence of a range of mental health outcomes before and after the Israel-Gaza war (2008-2009). The study found that the prevalence of PTSD declined from 20% during the war, to 3% two months after the war and 2.2% four months after the war. This

shows how the rates of PTSD were significantly high during exposure to war and with the passage of time they declined.

Two years after the 2006 Israeli-Lebanon conflict, a national survey found the prevalence rate of PTSD among civilian adults to be 3.4% (Karam, et al., 2008). Another study conducted by Israelis after this conflict found that after 44 months of the initial exposure to war trauma, the prevalence of PTSD was 9.4% of the adult population of Israel (Bleich et al., 2006).

In Palestine's Gaza Strip, the prevalence rate of PTSD among adults ($n = 585$) was 17.8% (de Jong et al., 2001 - 2003). In Iraq, a 10.5% prevalence rate of PTSD was reported (Al-Jawadi & Abdul-Rhman, 2007). A large scale survey conducted among Iranian adults reported that the prevalence rate of PTSD was less than 1% (Mohammadi et al., 2005). However, the prevalence rate of PTSD in the Middle East in general, of all populations, was higher when compared with the Israeli population studies, in particular (2001-2008). In the last decade, a large number of studies have consistently reported marked increases in the levels and severity of psychological disorders, (PTSD, depression, and anxiety) affecting a significant proportion of the Palestinian population groups, including the internally displaced refugees to be found across the whole of the Palestinian territories and Palestinian prisoners in Israeli detention (Thabet et al., 2008).

To conclude, most of the political conflict studies have estimated that the lifetime prevalence rates of PTSD among children and adolescents were higher than in adults who had been exposed repetitively to traumatic events. Also, findings indicate that repetitive exposure to traumatic events will lead to the development of PTSD, depression, and anxiety. It has been observed that with the passage

of time the prevalence rates of PTSD among all population groups decline.

Palestinian Epidemiological Studies in Gaza

In Gaza, a study conducted by Qouta, Punamaki, Miller, and El-Sarraj (2008) on children and adolescents aged 10-19 years reported that 32.7% of the participants met the criteria of DSM-IV for PTSD. Boys who were living in camps showed higher rates of PTSD symptoms than girls and both genders showed higher rates of PTSD symptoms than those living in Gaza city. Another study by Thabet and colleagues (2008) assessed living conditions: they found that 46% of parents behaved aggressively towards their children, whilst symptoms exhibited by children included bed-wetting (27%) and nightmares (39%). Moreover, aggressive behaviour among refugees was found to be considerably higher (53%) than non-refugees (41%).

A further study was conducted in Gaza among Palestinian adolescents aged between 15-19 years after the second uprising (Al-Aqsa, Intifada) of 2000 - 2005, by Elbedour and colleagues (2007). PTSD was assessed by specific instruments in accordance with the DSM-IV criteria. The results revealed that 68.9% of the participants developed PTSD, whilst the rate for moderate or severe levels of depression was 40% and 94.9% reported severe anxiety. It is worth noting that the higher rates of PTSD and the other mental disorders were related to the time of the data collection, which was during the period of the second intifada (September 2000 to February 2005). Khamis, (2008) examined the rate of PTSD, depression and anxiety among Palestinian adolescents who had sustained injuries and suffered from permanent disability following the second Intifada. The sample ($n = 179$) comprised boys of similar age to Elbedour's study. The data was collected by self-reporting

questionnaires in an interview format, completed in the participants' homes. It emerged that 76.5% of the participants had met the DSM-IV criteria for chronic PTSD, co-morbid with depression and anxiety.

The relationship between Intifada-related injuries and PTSD co-morbid with depression and anxiety was significant. Furthermore, in the same study, age, injury, permanent disability and residential location were found to be significant predictors of increased rates of PTSD, anxiety, and depression (Khamis, 2008). These traumatic experiences were found to be transmitted from an early age through to current adulthood in a significant proportion of those studied (Abu Hein et al., 2008; Mousa & Madi, 2003; Thabet et al., 2009, 2008, 2004; Qouta, Punamaki, & El Sarraj, 2003).

The daily lives of all residents in both the Gaza Strip and the West Bank are negatively affected as a result of the ongoing threat of attack and ever present exposure to war-related trauma since 1948. Accordingly, despite the long history of wars and armed conflicts in the Palestinian territories, more attention has been given to children and adolescents than the epidemiological psychological consequences of co-morbidity on the adult civilian population (Thabet, Yahua, & Vostanis, 2004)..

A few studies have been conducted, focusing on the prevalence rates of PTSD in a small sample of the general population eleven years after the 2000 Intifada. That is, De Jong and colleagues' (2001) comparative epidemiological survey in four countries including Gaza, as explained earlier. Madianos and colleagues (2011) conducted an epidemiological study in the Palestinian territories (Gaza and the West Bank) among adults in order to determine the prevalence rates and possible differences among predictor variables of PTSD, MDE, and their co-morbidity after extreme exposure to traumatic events of the intifada (2000).

Recent adult studies have examined the relationship between exposure to war traumatic experiences, PTSD and post-traumatic growth among nurses in Gaza (Shamia, Thabet, & Vostanis, 2015). Thabet, Tawahina, Punamaki, & Vostanis (2015), investigated the prevalence and mental health function of resilience, in order to determine the resilience and coping strategies among Palestinian adults living under military siege and violence. Another study by Thabet, Tawahina, Sarraj, & Vostanis, (2013) examined death anxiety, PTSD, trauma, grief, and the mental health of Palestinians victims of war on Gaza. Another two studies one by Juama's and thabet (2015) and Thabet & Sultan, (2016) examined the relationship between stressors due to siege, anxiety, depression and coping strategies among university students in Gaza

Consequently, there is a paucity of comprehensive epidemiological research among adults in both territories of Palestine, in general and the Gaza Strip in particular. To address this, the current research aims are to explore traumatic experiences and to establish the prevalence rates of PTSD, depression and general mental health among Palestinian adults living in the Gaza Strip, by establishing a relationship between continuous exposure to war, ongoing threat of attack and the continued blockade of the Gaza Strip.

It is a fact that only a few of people exposed directly to extreme traumatic experiences go on to develop PTSD. The majority are able to find and maintain coping strategies (DSM IV-TR 2000; Madianos et al., 2011). This relates strongly to the findings of the National Co-morbidity Survey by Kessler and colleagues (1995), which substantiated that even when exposure was related to the most extreme traumatic events such as war and siege, only a minority developed PTSD symptoms.

Consequently, the predictions of high rates of PTSD being related to war experiences are not generally substantiated. For a certain group of adults, even though a minority, the prevalence rates of PTSD, comorbid depression and anxiety remain high, because of the continuous threat of invasion and prolonged siege (Abu Hein, El Sarraj, Thabet, Qouta et al., 2009, 2008; Khamis et al., 2009; Punamaki et al., 2005)

The Palestinian West Bank epidemiological study by Madianos et al. (2012, 2011) indicated that the most frequent mental disorder was chronic PTSD, with a prevalence rate of 18.7%, and a co-morbidity of 26.5% with depression; additionally, 6.1% suffered from lifetime chronic depression. Furthermore, the same study revealed that the refugee participants exhibited higher prevalence of PTSD co-morbid with severe depression, than those who were not refugees. The findings also showed that suicidal ideation and behaviour were co-morbid in a few cases of chronic PTSD or depression. However, very few go on to actually attempt suicide, because of Islamic religious faith and its teachings.

These results indicated that PTSD and depression among Palestinian adults, especially those who are living in refugee camps, can lead to suicidal acts (Madianos et al., 2011; Thabet et al., 2009). These findings were consistent with the studies that reported that co-morbidity with PTSD and depression increases the risk of suicidal behaviour (Breslau et al., 1998; Kessler et al., 1995; Creamer, Burgess, & McFarlane, 2001).

In Gaza, the general onset age of PTSD is 12 years of age (De Jong et al., 2001 - 2003). The younger the onset age, the more likely an individual is to meet the criteria of DSM-IV for PTSD. It is argued, as a consequence, that the younger the onset age, the more the risk that at some point in their lifetime individuals will develop

mental disorders, like chronic PTSD or major depressive and anxiety disorders (Kessler et al., 2005,1995,1994; Breslau et al., 2008,1991; Regier et al., 1998). However, because of the lack of studies relating directly to the adult segment of the Gaza Strip population, adults have been treated with therapy primarily designed for children and adolescents, which has resulted in the treatment being relatively ineffectual (Thabet et al., 2008).

Findings strongly indicate that high rates of PTSD and other related mental disorders are directly related to the geography of the Gaza Strip and its size (see the Gaza Strip map in appendix A). Its area is 365km² and it has the highest population density in the world (Harsha, Ziq, Ghandour, & Giacaman, 2016). We see from the above studies then, that if one takes age, not in isolation, but as one of the significant variables, it is influential in the interaction between predictors and other variables that increase the development of PTSD among adults. Age, in adults and the older adults is the strongest predictor risk factor for PTSD symptoms, compared to younger adults. This is due to the effects of the type, duration, degree, and severity of exposure to a traumatic event (Barber et al., 2015). These variables, as indicated, have a significant impact in regard to suitable targeted therapeutic approaches.

Kessler and colleagues (2005) substantiated the above findings by demonstrating that variables, such as age, are significant risk factors linked to lifetime prevalence of PTSD among survivors. Change can occur to all the independent variables over time. For example, the risk factors in regards to age in relation to the change from childhood to adolescence, through to adulthood. Here one can argue that another variable such as location will affect the risk factor because the environmental demands in that location has a direct influence on the individual's response; as the individual grows from

childhood to adulthood they might change their location or residency many times therefore varying the prevalence of mental disorder including PTSD.

Taking Gaza specifically, studies have found that generational and individual realities were war and siege, which led to displacement and uncertainty of location. For the majority of Gaza's citizens, whether located North, South, West (Gaza City) and Middel of Gaza, they all reside in potential or de-facto clash areas. Thabet and colleagues (2009; 2008) and Mousa and Madi (2003) found that 54% of the people living in clash areas exhibited higher rates of chronic PTSD, depression and anxiety relative to those who lived in non-clash ones.

Individual vulnerability and severity of traumatic-related experiences play major roles, within the context of the variables, in terms of the risk of developing mental disorders and PTSD (e.g. Breslau, Troost, Bohnert, & Luo, 2013; Breslau, 2009, 2007, 2001; Yehuda & McFarlane, 1995).

Sociodemographic factors

People living in the refugee camps exhibited high rates (84.1%) of PTSD symptoms and depression, which were higher than their counterparts living outside of the refugee camps, where 15.8% reported these symptoms (El-Sarraj & Qouta, 2005). Hence, the above findings have proven that residential location as an independent variable is a significant strong predictor for PTSD, depression and anxiety; findings also supported by Khamis (2015) and Thabet and colleagues (2009).

Gender is another variable that plays a substantive part in trauma. The majority of adult studies, in general, reported that females showed a higher rate of depression than males, but the latter had higher rates of PTSD than the former (Sundin, Fear,

Iversen, Rona, & Wessely, 2010; Tolin & Foa, 2006). Consequently, gender has strong potential to be a predictor for the development of PTSD, depression and anxiety among adults. Also, after exposure to many traumatic events, women were at least twice as likely to develop PTSD as men (Kun, Tong, Liu, Pei & Luo, 2013). Kessler and colleagues (2005) indicated that women were found to have a higher risk of anxiety than men (28.8% more likely) and mood disorders (20.8% more likely). Most of the epidemiological studies reported that there are different rates of psychopathology in both genders. The rate of mental disorders among females was higher than in males due to females' vulnerability to sexual violence (Perkonigg, Kessler, Storz & Wittchen, 2000; Kimerling, Ouimette & Wolfe, 2002). Conversely, Perkonigg and colleagues (2000) indicated that men, when being exposed to traumatic experiences in their lives, are more likely to develop PTSD than women.

Most of the participants, no matter their age, gender, or location had been exposed to direct or indirect traumatic events as an integral part of their daily lives. Experiencing war, witnessing death, and living with an expectation of military aggression, left with feeling that their lives were insecure, and that their daily life was ruled by the constant fear of threat and actual threat (DSM-IV- TR, APA - 2000).

Generally, the variable of marital status, in regards to response to divorce or being widowed, show that in both genders the prevalence of PTSD is associated with the severity and the type of traumatic event that occur (Kessler et al., 2008, 1995). Prevalence rates of PTSD for married individuals were higher than the prevalence rates for single individuals (Kessler & McRae 1984). In war and post-conflict countries, married women showed higher lifetime prevalence rates of depression and PTSD, especially

widowed women who had lost a husband through war, or mothers who had lost a member of the family, relative to single females. Women are more prone to higher prevalence, because they tend to be more empathic than men and hence, the probability of a traumatic event leading to a psychological disorder is greater (Cogle & Resnick, 2013).

In Gaza, both women and men are constantly being exposed to the extreme multiple distressful traumatic events of war and siege. Accordingly, the current study will examine whether there are any differences in the prevalence rates of PTSD and other related mental disorders between both genders with respect to their marital status or not. The hypothesis of the current study is that there is a difference in the rates of PTSD and depression between the genders, because unlike Kessler's and colleague 1984, Western sample, the people of Gaza live in a very conservative society, where the burden of providing for the entire family falls solely on the "man of the house", which leads to higher rates of PTSD in males than in females.

There is an historical lack of research of adult groups in Gaza, which provides the rationale for carrying this study. As aforementioned, owing to this lack, right therapeutic conditions and models for children and adolescents have proven to be maladaptive when applied as a therapeutic treatment approach for PTSD in adults. This study is focused specifically on adults of both genders, who have been continuously exposed to war and suffering under prolonged siege and then go on to develop chronic PTSD comorbid with depression and other mental disorders. With this understanding of the impact of war and siege on the prevalence rate of PTSD and depression among Palestinian adults in the Gaza Strip, future therapies can be devised that are directly applicable to the adult

population living in the Gaza Strip, and indeed in other countries where similar conditions exist.

As with all cases regarding psychological problems, emotional reactions or/somatic complaints, psychosocial support is vital. This social support can be affirmative for the individual in bringing much needed understanding and expertise to a seemingly intractable psychological problem. Professional help can advise the individual on how to adopt coping strategies and take positive proactive actions to alleviate symptoms. Psychosocial support includes coping with stress, family, spiritual and religious support, resilience, and coping responses for trauma.

2.10 **Summary**

This chapter provides a brief history of the development of the PTSD concept. This is followed by the DSMs classifications of trauma and PTSD development. The literature review establishes the concept of trauma and PTSD as recognised in the 1980s and shows that the classification and conceptualization of DSM-5 (2013) and DSM-IV (2000) reflect integral overlapping symptoms. The classification of traumatic events is identified in the DSM-IV-TR (2000). The definition of trauma and PTSD varies, but is commonly identified as a disorder that occurs after exposure to traumatic event(s). Studies have estimated that the prevalence rates of PTSD differ, but as a generalisation, a few number of people exposed to frequent (direct/indirect) traumatic events meet the criteria of PTSD.

Leading research studies into trauma and PTSD symptomology have increased interest in the often devastating consequences of PTSD. The literature reports that there is an agreement that the exposure to extreme traumatic events and stressors related to war and political conflict have a negative impact

on mental health and associative co-morbidities. Research has unequivocally recognised (as classified) that people's life quality, close relationships with others, social function and general self-efficacy are impacted by trauma, hence, increasing the potential risk of the development of PTSD and other mental disorders among civilian populations living in war torn and post conflict countries.

The next step is to recognise and qualify the risk factors regarding PTSD symptoms in the civilian population of Gaza. The paucity of longitudinal, systematic and cross-sectional studies examining the psychological impacts and general health after exposure to potential (and accumulative) traumatic event(s), specifically in relation to the adult population of Gaza, set against the backdrop of comparison where consensus is both accepted and challenged. The concept of complex PTSD is identified as psychological injury and this research is in pursuit of understanding, diagnosing, and finding a treatment for those that have been affected by trauma related to war and siege.

The next chapter provides a general overview of the mixed-methods employed including a theoretical guide for the quantitative and qualitative methods, a cognitive model for PTSD, thematic analysis, and transactional theory of stress and coping.

Chapter 3: **Methodology**

3.1 **Introduction**

This research was conducted using two approaches. For the quantitative Studies 1 and 2 Ehlers and Clarks' (2000) cognitive model of PTSD was used, whilst for Study 3 a qualitative approach was deployed. Specifically, the thematic analysis model by Braun and Clarke (2006) for PTSD was drawn upon and hence, the mixed-methods approach was employed as an essential auxiliary methodology. Mixed-methods can be utilised to understand, in greater depth, adults' traumatic experiences and coping strategies. Quantitative and qualitative research present distinct characteristics, variables, and themes, and also, quantitative, qualitative and mixed-methods approaches in research are integral to understanding and rationalising participants' reactions after exposure to traumatic experiences (Ayazi, Lien, Eide, Swartz & Hauff, 2014). Furthermore, these methods help to explain the consequential psychological disorders of those individuals, and determine the prevalence rates of PTSD and depression. The researcher considered it essential to discuss and justify differences between the quantitative and qualitative approaches (Barbour, 1998; Kura & Sulaiman, 2012). The mixed-methods approach provides useful criteria and frameworks for diverse data (Bhaskar, Vaiva, Cottencin, Molenda & Bailly, 2001; Creswell, 2013; Greene, 2008, 2006; Tashakkori & Creswell, 2007; Tashakkori & Teddlie, 2010, 2003).

This research, to the best of the researcher's knowledge, was the first to explore the traumatic experiences of the Palestinian adult population of the Gaza Strip in order to estimate PTSD prevalence rates. Earlier studies have pertained to children and adolescents (e.g. Thabte et al., 2013; 2008; Madianos, et al., 2011; De Johns et

al., 2001). In recognition of this research gap, the current thesis provides much needed analysis of PTSD experiences among the Palestinian adult population in the Gaza Strip. Understanding the prevalence rate of PTSD, depression, general psychiatric morbidity, and adult coping strategies is a crucial objective of this research. This will serve to broaden our knowledge of these concepts in the context of war and ongoing siege.

General research questions, aims and the general hypotheses of this research will be presented, followed by justification for all methodologies deployed. I begin by discussing the quantitative (deductive) and qualitative (inductive) approaches, followed by a review of the cognitive model and the advantages of deploying the thematic analysis models. Additionally, for this study the transactional theory of stress and coping as a theoretical framework (Lazarus, 1966; Lazarus & Folkman, 1984; Lazarus & Launier, 1978) was utilised, as outlined in this chapter.

The main research question centres on the effects of war and siege on the prevalence rate of PTSD and other mental disorders among adults in Gaza. The secondary question involves investigate the experiences, perceptions, coping strategies and resilience of adults living in the Gaza Strip under such conditions.

3.2 Quantitative studies (Study 1 and 2)

The two studies were designed to address the significant need for adult literature in this area to encourage the evolution of research. Study 1 (quantitative) was designed to establish the prevalence rates of PTSD among Palestinian, young adults, adults and older adult in Gaza, in relation to age and gender. Whilst Study 2 (quantitative) was designed to determine the prevalence and prediction factors comorbid with PTSD, depression and general

psychiatric morbidity among the Palestinian adult population living in the Gaza Strip. This aim was twofold, and as follows: (1) establish PTSD and depression prevalence rates among adults; (2) identify the moderating and mediating factors between trauma exposure and PTSD.

In order to achieve the above aims, the following research hypotheses (excluding the hypotheses of Study 3) will be tested in the results chapters 4 and 5.

3.2.1 General Research and Hypotheses

1) The type and severity of experience when exposed to continuous conditions of war and prolonged siege leads to high prevalence rates of PTSD and depression symptoms.

2) The high levels of exposure to trauma related to war and siege, regardless of the contributing factors (i.e. gender, age, residential location, marital status, and education levels), are associated with higher rates of PTSD, depression disorders and other related psychiatric disorders amongst Palestinian adults in the Gaza Strip.

Cognitive Theory of Trauma and PTSD

As aforementioned, studies 1 and 2 were based on a quantitative approach employing Ehlers and Clark's (2000) cognitive model of PTSD. This cognitive model is an integrative conceptual model which covers persistent exposure to trauma and is considered a valid theoretical framework for the study of PTSD. The model suggests that pathological responses will be demonstrated when sufferers process trauma-related information in a proscribed manner, causing a sense of continuous threat, be it "internal" or relating to a "threat to self and future" (Ehlers and Clark (2000, p. 320). This model proposes that exposure to a traumatic event leads to 'idiosyncratic,' negative appraisals that give rise to a sense of current

threat, as classified in PTSD symptomology. This negative appraisal develops during the course of the individual's information processes through 'exaggeration' responses and 'over-generalisation' of normal experiences as a result of the traumatic events and/or stressful conditions. Thus, for PTSD symptoms to be diagnosed, individuals should experience two perceptions: (1) a sense of serious current threat, and (2) idiosyncratic negative appraisals of a traumatic event (Ehlers and Clark, 2000).

In the case of Gaza, after the 2008-2009 and 2012 wars on Gaza, Studies 1 and 2 pertain to examining adults who remained after the conclusion of hostilities under prolonged siege between March and May 2014. These studies, explored their further expectations of the threat of a future military incursion, which occurred in July 2014. The total population of Gaza, including adult groups, is still experiencing an ongoing sense of serious and forthcoming threat on a daily basis. Ehlers and Clark (2000) suggested that two processes can lead to a current sense of threat; first, differences of trauma and/or its sequelae, and second, differences of memory related to a traumatic event and linkage to intrusive autobiographical memories related to the traumatic events (Ehlers & Clark, 2000; Halligan, Michael, Clark & Ehlers, 2003). Ehlers and Clark (2000) proposed that when a traumatic event is re-examined/recollected through "cognitive processing," it is defined by a number of factors characterising the trauma event. During trauma or prediction of trauma, the significant process of thought has a profound influence on mental appraisals, which is termed 'mental defeat.' This is defined as the perceived loss of identity as a human being, and is related to helplessness (Ehlers, Maercker & Boos, 2000). Strategies are then adopted to enable the affected individual to exert eventual and effective control over the perceptions of threat,

and the symptoms that arise through the effects of negative appraisals of the nature of a traumatic memory re-occurring as intrusive thoughts, feelings and flashbacks.

The trauma memory is resisted by behavioural patterns and cognitive strategies as a result of negative appraisals of the traumatic event (Ehlers & Clark, 2000 p. 332). For example, common responses to re-occurring traumatic events are intrusive thoughts, poor concentration and feelings of numbness; responses that are not perceived as being 'normal.' Individuals can thus interpret that their symptoms will become 'permanent' and constitute threats to physical and mental health, compounded by the avoidance of events related to the traumatic experience. These strategies are maladaptive and delay recovery from PTSD (Ehlers & Steil, 1995; Foa & Rothbaum, 1998; Barlow, 1990).

The Cognitive Theory of Depression: Arabic version

The Beck Depression Inventory–II (BDI-II, 1996) is an indicator of the severity of an individual's depressive symptoms. It is grounded in the criteria found in DSM-IV TR (2000) for depressive disorders and is used in studies focusing on trauma-exposed individuals. The BDI-II Arabic version is widely used in 18 Arab countries, including Gaza. (For English and Arabic version, see Appendix A). Ghareeb, (2000) found evidence that the reliability and validity of this theory was sustained across different cultural groups and populations. That is, the BDI-II is highly reliable and valid across all Arab countries with Cronbach's alpha coefficients ranging from 0.82 to 0.93 (Al Ansari & Bader, 2006, 2001; Ghareeb, 2000; Kazim & Al Ansari, 2008; Madianos, et al., 2011).

Rationale of using DSM-IV TR (2000)

The Diagnostic Statistical Manuals of Mental Disorders – 5 (DSM-5, 2013) was released on May 18th, 2013. The data collection

for Studies 1 and 2 was started on March 27th, 2014, and finished in May 2014, two months before the last war that began on July 7th, 2014. As the new released version of the DSM - 5 was not translated into Arabic at the time of data collection, the current Arabic version (DSM-IV TR 2000) of PTSD was the only validated classification system in use, as indicated by present studies e.g. Shamia, Thabet, & Vostanis, (2015). Therefore, for the current quantitative studies the diagnostic validation and criteria of DSM-5 in regard to PTSD among the adult population of Gaza was not engaged with. Rather, for the reasons stated, the validated DSM-IV was the only diagnostic classification system that could be used to diagnose symptoms of PTSD in the Gaza strip. This has not proven to be disadvantageous, as the DSM-IV contains an entirely reliable criteria framework for contextual research and argumentation, as indicated by Professor Abu Hein, who stated that in relation to Gaza, the DSM-5 is presently not validated or used as a methodological instrument.

Finally, the current quantitative studies were based on the main criteria of PTSD and depression symptomology, as categorised in DSM-IV. This is consistent with the main clinical features of the PTSD criteria and provides a solid foundation for early intervention (with individuals traumatised in crisis situations such as war or political conflict) and therapy by distinguishing between three aims for positive change.

Justification of using snowball sampling

Conducting research in war and conflict situations are challenging. Distrust and suspicion towards the researcher are high, due to fear that they could be a potential threat, or informant. The suspicion and uncertainty about the future is influenced by negative information processing, which leads to an increase in the current threat (Ehlers and Clarks 2000). Consequently, in war and conflict situations

randomly recruiting the participants throughout Gaza without developing trust is difficult. Snowball sampling was considered the most appropriate recruitment method as the research is provided an introduction from a trusted individual (Arieli & Tamar 2009).

Justification of the quantitative studies' variables

These studies evaluated the relationship between the effects of war and ongoing siege on the prevalence rate of PTSD comorbid with depression and general psychiatric morbidity among Palestinian adults in the Gaza Strip. War and siege characteristics were seen as the most important and influential predictors for increased prevalence of PTSD and depression.

The main research question in Studies 1 and 2 was regarding whether there would be a difference in both genders in terms of how PTSD is experienced based on age and gender of the respondents: "What is the prevalence rate of PTSD among Palestinian adults according to age and gender?" To address this question, six categorical and predetermined independent variables were set as: age, gender, war and siege, marital status, place of residency and educational level. These variables provide an estimate of their effects on increased prevalence rate of PTSD and depression. They were identified through an extensive literature review and by drawing on the cognitive model for PTSD (Ehlers & Clark, 2000).

The design used in Studies 1 and 2 was cross-sectional, based on the same sample of 500 Palestinian adults for both quantitative studies. This type of snowball sampling has been clarified throughout this thesis that, Study 1 (Chapter 4) and Study 2 (Chapter 5) are based on a single data collection exercise from the same snowball sample of participants. Four Arabic versions of self-report measurement checklist scales were used to achieve the aims and objectives of the current study. The four checklist scales

deployed were: Gaza siege checklist, PTSD checklist, GHQ-28 and BDI-II, Aarabic version. These four scales were used, translated and measured for validity as well as internal consistency by Thabet and colleagues (2009, 2008, and 2004) within the Palestinian population in the Gaza Strip (see English and Arabic copies in Appendix A). The instructions for all the measurement scales in this study were administered in Arabic and all participants were interviewed in their homes. The validity and internal consistency of the scales were determined via Cronbach's alphas and the split-half method, which will be explained in the materials section. Specifically, the four Checklist scales used to measure the variables of interest were as follows: 1) the Gaza PTSD Checklist (PTSDC), which comprises 17 items of PTSD symptoms originally adapted from the DSM-IV criteria (APA 1994). 2) The Gaza Siege Checklist, which was developed by the Gaza Community Mental Health Programmes (GCMHP, 2008) to assess the siege impacts on the Palestinian adults. 3) The General Health Questionnaire-28 (Arabic version - GHQ-28), which assesses the general psychiatric morbidity in adults exposed to traumatic war experiences. 4) The Arabic version of Beck Depression Inventory-II (BDI-II).

Thabet and colleagues (2009, 2008) found that the validity and internal consistency for all of the above scales were significant at $p < 0.001$ and had split-half reliability. For the current Studies 1 and 2 the normality of the scales was assessed through the Kolmogorov-Smirnov and Shapiro-Wilk tests; it was also found that the continuous variables were significant at $p < 0.001$ and were normally distributed (Ghasemi & Zahediasl, 2012). Regarding the frequency distributions, non-parametric statistical methods were used where possible to assess normality (Coe et al., 2010; Mertler &

Vannatta, 2005) (See figure 5.1 and for the frequency of normal distribution see histograms and Q-Q plots in Appendix B). These scales have the potential to measure the frequency of trauma and the severity of the disorders, separately.

Ethical Considerations

This research was approved by the Ethics Committee from the department of Psychology Research at Brunel University London. Ethical requirements in the undertaken studies were rigorously observed and presented (see ethics condition section in Appendix B). To ensure that participants' confidentiality was preserved, all the individuals who participated did so voluntarily and anonymously; their responses remained at all-times confidential. Additionally, in the case that a psychological problem might have arisen due to their participation in the present study, Professor Abu Hein ensured therapeutic treatment would be provided by the Community Training Centre and Crisis Management (CTCCM) (see the letter from CTCCM in Appendix B). At the end of the data collection, the eight psychologists involved reported that none of the participants showed distress because of the study, despite living in a conflict zone. After collecting data from a total of 500 participants, the psychologists from Al-Aqsa University received a payment sent by the researcher to Abu Hein (see research agreement Appendix B).

3.2.2 Methods

Participants

A total of 500 participants were recruited by snowball sampling from four regions in the Gaza Strip. They were recruited through local non-governmental organisations (NGOs). All had to fulfil the following criteria: they had to be over the age of 18 and they should not have been diagnosed or treated for any psychological

problems or in need of psychological treatment. All participants were given a package containing ethical issues provided by the Brunel University London Research Committee (see English and Arabic copies of participants package in Appendix B), which included the essential aims in relation to conducting the research, the procedure, participant information and assurances of confidentiality. The participants were informed about the consequences of participation in this study and were then asked to sign the consent form before proceeding. They were provided with the four previously mentioned questionnaires and each interview lasted approximately 20 minutes; taking place between March 27th and May 2014 at the participants' houses. The PTSD questionnaire provided socio-demographic information about the participants.

The six socio-demographic variables focused on were: age, gender, war and siege, marital status, residential location and educational level. Epidemiological data on prevalence of PTSD have considered socio-demographic variables to be some of the most influential factors. These variables correlate with various mental disorders including PTSD worldwide and across different cultures, regardless of their development status (Hobfoll et al., 2012; Kessler & Bromet, 2013). Accordingly, there may be various prevalence rates of PTSD, depression and other disorders amongst individuals with different socio-demographic variables. Consequently, investigating the correlation of the above socio-demographic independent variables with the dependent variables, PTSD and depression, enabled the researcher to understand their influence. Furthermore, this gave the researcher a clearer insight into which independent socio-demographic variables may have an influence on an individual in war and siege situations that could lead to them becoming traumatised, depressed, or anxious. The question raised

regarding each is, 'what is the impact of war and siege on the adult population in the Gaza strip in relation to the selected independent variable? An ANOVA can be used to measure the different influences of the different variables on PTSD, depression and anxiety. However, the above socio-demographic variables were also considered as moderator variables for the current study.

Pearson's correlation coefficients were used to identify the relationships between these socio-demographic variables and trauma, PTSD, depression and general psychiatric morbidity (see Table 5.16).

The results show that all continuous variables revealed a significant positive relationship between war and siege and the other independent variables on the prevalence rates of PTSD, depression and general psychiatric morbidity. Furthermore, the socio-demographic variables were significantly correlated with PTSD, siege, the GHQ-28, and BDI-II (Table 5.16).

These selected variables are commonly duplicated in epidemiological surveys worldwide. Thus, the purpose for collecting these socio-demographic variables was to obtain some initial information about the participants in order to obtain potential and accurate findings for generalisability.

3.2.3 Materials

Gaza Siege Checklist

The Gaza Siege Checklist was developed by the (GCMHP, 2008) to assess the siege impacts on the Palestinian adults who had experienced prolonged current siege. This scale consists of 21 items covering a wide range of daily life situations affected by the siege, including family, health, education, social life and economic issues (e.g. prices having sharply increased: "I feel I am in a big prison, and I cannot find some of the necessary things for my children (milk,

babies' nappies)" (See The Gaza Siege Checklist scale in Appendix A). The purpose of using this scale is to measure the effect of siege driven/caused trauma, PTSD and depression and other related psychological symptoms. Participants responded with "Yes" (coded 1) or "No" (coded 0) to each item. A mean score was created by adding up all the positive responses (i.e. participants who replied with a 'yes') for each participant, divided by the total number of items (21). Thus, high scores indicate high levels of siege-driven PTSD.

Thabet and colleagues (2008) reported adequate reliability for the Gaza Siege Checklist when testing adults living in Gaza ($\alpha = 0.72$). The results of the current study 2 showed high internal consistency and reliability ($\alpha = 0.80$). For the present study, participants with a total score of 10 and below were categorised as non/low-sufferers (coded 1), whereas those with a total score of 11 and above were categorised as suffering from siege driven/caused PTSD and depression (coded 2).

The Gaza PTSD Checklist (PTSDC) for adults

The DSM-IV TR (2000) Arabic version of the PTSD Checklist (PTSDC) was developed by Thabet, Tawahina Sarraj, & Vostanis, (2008). It comprises 17 items of PTSD symptoms adapted from the DSM-IV criteria (APA 1994) (see Gaza Checklist for PTSD, in Appendix A). Participants were asked to rate both the frequency and severity for each item on a 5-point Likert scale (1 = "never" to 5= "Always") to indicate the degree to which they had been troubled by that particular symptom over the past month. Hence, a total symptom severity score ranging from 0 - 85 could be obtained by summing the scores. The PTSD threshold scores were categorised into five groups: 0 - 19 = no/few symptoms, 20 - 39 = symptoms, 40 - 59 = mild, 60 - 79 moderate symptoms and ≥ 80 = very severe PTSD symptomatology (Weathers, Keane & Davidson, 2001, 1999).

Furthermore, the cut-off for subscale scores for re-experience, avoidance, hyperarousal symptoms, can be calculated separately for frequency and severity (Shamia, Thabet, & Vostanis, 2015; Thabet et al., 2008).

The scale's items were designed to reflect the three main criteria of PTSD symptomology, B: re-experience, C: avoidance and D: Hyper-arousal (DSM-IV TR, 2000; Thabet et al., 2009, 2008, 2004, 2002,1999). Each criterion refers to symptoms that are associated with a previous traumatic event. Accordingly, the Gaza Checklist is divided into three subscales: B: Re-experiencing symptoms including items 1 - 4, and 17 (intrusive recollections; nightmares; flashbacks; exposed to traumatic reminders; and exaggerated response). An example items (1) asks, "Do you experience images, flashbacks and memories related to the war?". Subscale C focused on avoidance and numbness symptoms, and consisted of items 5 - 11 (avoidance of thoughts, feelings, places or people; recalling a traumatic event; diminished interest; detachment; a restricted and sense of a foreshortened future). An example item (6) asks, "Do you avoid talking, thoughts and feelings that remind you of the traumatic experiences suffered during the war?". Subscale D focused on hyper-arousal symptoms and included items 12-16 (sleep problems; irritability; concentration problems; and hyper-vigilance). An example item (13) asks, "About your sleeping: Is it hard to fall/stay sleep?".

Some studies have estimated that the severity of PTSD measured by the PTSD Checklist (PCL) varies across clinical samples, with a cut-off of ≥ 50 being typical (e.g. Hoge, Castro, Messer, McGurk, Cotting & Koffman, 2004; Kang, Mahan, Lee, Magee & Murphy, 2000). Nonclinical samples (e.g. Conybeare, Behar, Solomon, Michelle, Newman & Borkovec, 2012) also report a

cut-off of ≥ 50 (e.g. Blanchard et al., 1996; Weathers et al., 1993; Ikin et al., 2004; Jones, Rona, Hooper & Wesseley, 2006). In their research, Blanchard and colleagues reported a clear cut-off point of 44. Conversely, in earlier research Blanchard and colleagues (1995) proposed that using a minimum sum of either a score of 3 or 4 for each item in considering the severity of symptoms as positive towards the diagnosis of PTSD is feasible. Earlier, Weathers and colleagues (1993) suggested that a cut-off score of 50 and a minimum sum score of 3 or 4 for each item are optimal for making the diagnosis of combat-related PTSD. The Gaza PTSD Checklist, based on the PCL scores of Blanchard and colleagues (1995) as well as Weathers and colleagues (1993), showed high reliability and validity (Thabet et al., 2008, 2007).

The current Arabic version of the PTSD Checklist has been validated and extensively used in all Arabic countries, including the Gaza Strip, being still in use today (Shamia, Thabet & Vostanis, 2015). It was used to assess the most common traumatic events experienced by individuals affected by the wars in Gaza, including witnessing shooting, bombardment of area of residence and house demolition (Thabet et al., 2009, 2008).

Thabet and colleagues (2009, 2008) reported high internal consistency and reliability of the scale ($\alpha = 0.88$); the split-half was 0.79. In the same studies, Thabet and colleagues found that the split-half method was significant and had strong correlation coefficients between all the subscales of the PTSDC and the total score. For the present study, internal consistency was high (Cronbach's $\alpha = 0.97$) and the correlation coefficient split-half was 0.68 ($p < 0.01$), which indicates high internal reliability. These findings confirmed that the 17 items of the scale have strong validity and internal consistency.

Shamia and colleagues (2015) along with Thabet and colleagues (2013) reported that the Arabic version of the Gaza PTSDC showed high reliability (i.e. Cronbach's $\alpha = 0.80$) and validity with previous samples from the Gaza Strip and other recent studies. For example, recently, Shamia and colleagues (2015) found good validity and high internal consistency of the Gaza PTSDC ($\alpha = 0.91$) among Palestinian nurses. Thabet and colleagues (2013) reported high internal consistency of the PTSDC for adults ($\alpha = 0.89$; the split-half was 0.76). Furthermore, Madianos and colleagues (2011) reported high reliability of the PTSDC in a Gaza sample ($\alpha = 0.89$). This indicates high internal consistency in the Arabic version of the Gaza Checklist.

The quantitative research was consistent with the findings of previous studies. For this research, the Cronbach's alpha for the three subscales were as follows: 1) re-experience symptoms, which included five items (1 to 4 and 17) ($\alpha = 0.72$); 2) Avoidance and numbness symptoms, which included seven items (5 to 11) ($\alpha = 0.70$, which is acceptable); and 3) hyperarousal symptoms, which included five items (12 to 16) ($\alpha = 0.68$, slightly low, but still acceptable). All of the subscales correlated significantly with the PTSD symptom score ($p < 0.001$). Equivalence was shown between the first and second subscale, and the results were in line with previous research. However, for exploratory research, the Spearman-Brown prophecy coefficient criterion can be as low as (0.60), which means that the item is at least moderately correlated to the whole scale (Field, 2009). If participants responded with "always" to one (or more) item from the B criterion (re-experience), three (or more) items from the C criterion (avoidance) and two (or more) items from the D criterion (hyperarousal), then the individual was categorised as suffering from PTSD (coded as 2; no PTSD was

coded as 1) (see Table 2.2 DSM-IV TR 2000, APA diagnostic criteria for PTSD).

General Health Questionnaire-28 (GHQ-28) (Goldberg, 1979)

The GHQ-28 Arabic version has been translated and validated in Arabic culture, including Gazan culture by Thabet and Vostanis (2005), and previously has shown high reliability and validity (see English and Arabic copy of the GHQ-28 in Appendix A). The scale contains 28 items divided into four subscales, each consisting of seven items, which indicate the most common general psychiatric comorbidities: (a) somatic symptoms (e.g. Do you often feel tired or fatigued?); (b) anxiety/insomnia (e.g. Do you experience any difficulty sleeping due to any worries?); (c) social dysfunction (e.g. Do you feel that you take a long time to do certain things?); and (d) severe depression (e.g. Do you feel that life is worthless and there is no hope?).

The participants were asked to evaluate their recent psychological state with their current state by indicating items that were applicable. They responded to each item on a 4-point Likert scale (0="better than usual" to 3 ="much worse than usual"). Thabet et al. (2005) suggested a cut off score of 3 for each item, leading a total score from 0 to 84. A score of less than 24 indicated wellness, while a score of more than 24 indicated distress (Goldberg & Williams, 1988; Quinlivan & Condon, 2005; Thabet & Vostanis, 2005).

The cut-off point for the GHQ-28 of 4 or 5 is considered to be possibly indicative of psychiatric morbidity (Bridges & Goldberg, 1987; Quinlivan & Condon, 2005; Thabet and colleague, 2005). Participants with a total score of 4 or less belong to the no/low general psychiatric morbidity group, coded as 1, whereas those with a total score of 5 and above belong to the high general psychiatric

morbidity group, coded as 2. This cut-off criterion is supported by Goldberg and colleagues (1987, 1979), Thabet and colleague (2005).

Thabet and Vostanis (2005) reported a high reliability of the Arabic version of the GHQ-28 ($\alpha = 0.93$). Additionally, sensitivity was 0.87, which is consistent with Goldberg, (1979) with a specificity level of 0.49. The split-half reliability of the scale was high ($r = 0.88$) (Thabet and colleague, 2005). This revealed that there were significant and strong correlations between the two halves of the GHQ-28 in the Gaza sample. Consequently, the GHQ-28 has been used across populations in all Arabic countries (Farhood, Fares, Sabbagh, & Hamady, 2015, 2012, 2006; Thabet et al., 2016, 2013, 2008 2005).

In the current study, the Cronbach's alpha coefficient was sufficient for the overall scale ($\alpha = 0.90$) and the split-half was 0.74. In relation to the internal consistency in the four subscales the following alpha coefficients were found: 1) items from A1 to 7: somatic symptoms ($\alpha = 0.69$); 2) items from B1 to 7: anxiety/insomnia ($\alpha = 0.78$); C) items from C1 to 7: social dysfunction ($\alpha = 0.70$); and items from D1 to 7: severe depression ($\alpha = 0.73$). Clearly, the present study found that one main factor emerged for severity of anxiety/insomnia and for social dysfunction. The factor structure conformed to the standard symptoms of PTSD. The results show that the *t-test* score was statistically significant $p < 0.01$ for somatic symptoms in the GHQ-28.

The above, indicated that the GHQ-28 scale had high reliability and internal consistency across all of the four subscales. Consequently, the GHQ-28 is able to measure the four general psychiatric morbidity (somatic, anxiety/insomnia, social dysfunction and severe depression, accurately).

Beck Depression Inventory-II (BDI-II)

The BDI-II comprises 21 items (Beck, Steer & Brown, 1996) and assesses symptoms of depression in clinical and non-clinical populations. The scale corresponds to the depression criteria, as described in DSM-IV (1994) (Quilty, Zhang & Bagby, 2010). The Arabic version of BDI-II (Beck et al., 1996) was translated and developed by Ghareeb (2000) in Egypt (see also Al-Musawi, 2001) (See English and Arabic copy BDI-II in Appendix A). Participants were instructed to answer all questions (e.g. "I feel sad, I am pessimistic about the future and I experience suicidal thoughts"). Each item is based on the past two-week time period on a 4-point Likert scale (0 = "No", to 3= "frequently"). Four depression intensity levels were identified (Al-Musawi, 2001; Kazem & Alansari, 2008; Ghareeb et al., 2000; 1999): participants with no depression scored between 0 - 13 (coded 1); those with mild depression scored from 14 - 19 (coded 2); those with moderate depression scored from 20 - 28 (coded 3); and participants with severe depression scored 29 - 63 (coded 4). The Arabic version of BDI-II has been underscored by the inventory being easily accessible, easy to administrate, to the point and it has assumed significance in many populations. The Beck Depression Inventory has been evaluated in different countries, and has been validated as a reliable scale for diagnosing major depressive disorder. It has been translated into many languages (e.g. Arnarson, Lason, Smari & Sigurdsson, 2008; Jo, Park, Jo, Ryu & Han, 2007).

The Arabic version of BDI-II shows "psychometric soundness" as a "measure of depression". The Arabic inventory has demonstrated good validity, reliability and internal consistency for normal Palestinian adults. The results from both versions (the Arabic and original version) has shown that there is a consistency between

the original version of BDI-II and the Arabic version with the overall score of the Beck scale (0.32 to 0.76) (e.g. Alansari 2005; Al-Musawi 2001; Ghareeb, 2000). The correlation coefficients were calculated for each item and for the total score of the scale.

The Arabic version of BDI-II has been considered as highly reliable and valid across 18 Arab countries, with Cronbach's alpha coefficients ranging from 0.82 to 0.93 (Alansari & Bader, 2001, 2006; Ghareeb, 2000; Madianos et al., 2011). In 2000, Ghareeb studied 114 Egyptian undergraduate students and found a Cronbach's alpha coefficient of $\alpha = 0.83$ and a similar sample of 200 students from Bahrain and Morocco reported an identical coefficient. Madianos and colleagues (2011) examined the prevalence of depression among adults in Gaza and reported a Cronbach's alpha coefficient of $\alpha = 0.87$, $p < 0.001$. Similarly, the current study revealed a Cronbach's alpha of $\alpha = 0.89$. That is, the Cronbach's alpha for the current study was consistent with the above Arabic country examples (e.g. Alansari, 2005; Al-Musawi, 2001; Ghareeb, 2000, 1999). Furthermore, the items of the Arabic version were found to be highly correlated with each other in this research.

Consequently, the validity and reliability of the Arabic version has been replicated in this study, in the context of the Arab clinical and non-clinical adult populations (e.g. Abdel-Kalek, 1998; Alansari, 2005; Al-Musawi, 2001; Ghareeb, 2000). This indicates that the Beck Depression Inventory items have a high validity and reliability among Palestinian adults who live in the Gaza Strip.

3.2.4 Procedure

Due to the unstable political situation in Gaza, the Psychology Research Ethics Committee at Brunel University London ranked Gaza as a high risk region. Hence, I was unable to access Gaza in person to collect data. Instead, a team of eight psychology

postgraduate students (four male and four female) under the supervision of Professor Abu Hein (Al-Aqsa University, Palestine - Gaza Strip) agreed to recruit the participants and to collect the data for the purpose of the quantitative studies (see the researcher agreements in Appendix B). Data were collected between March and May 2014. Abu Hein is a Psychologist and Consultant Director of the Community Training Centre and Crisis Management (CTCCM), an NGO in Gaza. The eight postgraduate students were living in the four proposed research areas in Gaza (North, South, West (Gaza City) and Middle of Gaza).

Prior to the collection of data, Abu Hein trained these eight psychologists to conduct interviews with civilian adults from Gaza. During two hour training session, the psychologists read through the questionnaires, the participant consent form and the debriefing form (See Appendix B). After gaining an understanding of each form, they were required to interview each other with all four scales of the Arabic version, as translated and validated by Thabet and colleagues (2009, 2008, 2005, and 2004).

After the workshop, the psychologists were required to collect data from 250 male and 250 female civilian adults from the designated four research areas. The male psychologists interviewed male participants and accordingly, the female psychologists interviewed only female participants. This procedure was seen as necessary, given that the society in Gaza is conservative: very limited female interactions with males are accepted as the societal norm. Consequently, adhering to this societal norm and to avoid any prejudicial outcomes that could negatively affect the results of the questionnaires, the interviewer had to have the same gender as the interviewee. This interview format, thus, excluded the need for a mediating female or male of the family to be present. Regarding the

questionnaires, the Arabic versions of all four self-report measurements were specifically applied.

3.2.5 Data Analysis

SPSS statistics version 20 software was used to analyse the data. The means, standard deviations, Cronbach's alphas and correlations matrix for all the continuous variables were computed to summarise the distribution of values for each variable. Independent variables, such as the socio-demographic ones, were investigated in terms of their relationship with trauma, PTSD, depression and general psychiatric morbidity.

Kolmogorov-Smirnov and Shapiro-Wilk tests were used to test the normality of the data. It was found that most of the observed variables in the four scales (PTSD, Siege, GHQ-28 and BDI-II) were normally distributed (figure 5.1 in Appendix B). In addition, both the frequency distributions and Q-Q plots confirmed the normality of the data of PTSD and siege (see Figures 5. 2 - 5. 5 in Appendix B). Whilst the frequency distributions and Q-Q plots of GHQ-28 and BDI-II were skewed (see Figure 5. 6 - 5. 9), Kolmogorov-Smirnov and Shapiro-Wilk tests indicated that both Skewness and Kurtosis are 0 in a normal distribution, so the farther away from 0, the more non-normal the distribution (Asparouhov & Muthén, 2016; Schoder, Himmelmann & Wilhelm, 2006).

One-way ANOVAs and *t*-tests are parametric methods for testing whether samples originate from the same distribution. A one-way ANOVA was used to determine whether there was a difference between the means of two or more groups regarding the continuous dependent variables and was used because the collected data were normally distributed. One-way ANOVA results were used to evaluate Hypotheses H2, H4 and H5. *t*-tests were conducted to determine whether there were differences in PTSD and depression between

females and males, with the results being used to evaluate Hypotheses H1 and H6. Scheffe's test was used in order to carry out a comparison between the four residential locations; to identify differences between places of residence in relation with other variables

Pearson's correlation coefficients have been used alongside the ANOVA analyses to identify the relationships between the negative psychological variables as a result of traumatic experiences (Spurrier, 2003). The correlation two-tailed matrix between psychological variables was used to determine the correlation between the four measurement scales. The relationships between the total scores from the Spearman correlations were specified and used to test the sub-scales of PTSD and GHQ-28 and its sub-scales.

3.3 Qualitative study (Study 3)

3.3.1 Justification of Qualitative approach

The qualitative method can flexibly and profoundly investigate the influences of experience. It can provide in-depth understanding of the world, achieved through face-to-face interviews, which involves collecting 'real' data using the participants' language and encouraging individuals to reflect on the cultural influence and social experiences in their social settings, and their constructed interpolations (Yardley, 2008). That is, the aim of using this qualitative approach is to develop deep insights, meaningful and useful to groups of people who share similar situations and conditions (Joffe & Yardley, 2004). Transactional relationships are explored and understood in the pertinent chapter by using the transactional model of stress and coping, because of its inherent flexibility (Lazarus, 1966; Lazarus & Folkman, 1984; Lazarus & Launier, 1978). A supplementary approach of interpretation in regard

to psychological stress is deployed based upon the three approaches of Holroyd (1982), Hobfoll (1989) and Baum (1990).

Justification of Transactional model of stress and coping

The researcher deemed the transactional model of stress and coping to be an appropriate model for everyday use, particularly in distressful situations, such as war and prolonged siege, as in the Gaza Strip. The procedure of the transactional model is based on “primary appraisals”, which are used to evaluate the implication of a stressor or a threatening event. “Secondary appraisals” are used to evaluate the ‘controllability of the stressor’ and individual’s coping resources (Glanz et al., 2008, p. 214). These are specific coping strategies employed to mediate primary and secondary appraisals (Glanz et al., 2008).

The integration between these concepts is important for facilitating the process of model setting. This model provides useful tools for minimising the problem through re-appraisal of the situation. This model provides information and assists the person in seeking another psychological, emotional, or social form of support. It can also be used in relation to any proposed intervention programme, such as motivational messages and training techniques on preventative coping skills. This model involves the person altering their negative behaviour into that of a positive one. Moreover, the transactional model of stress and coping has additional concepts (Glanz & Bishop, 2010), such as coping efforts, problem management, emotional regulation, meaning-based coping processes, the outcome of coping, dispositional coping styles, optimism and information seeking. This model, through its constructs, minimises unexpected issues that might arise during the treatment setting. The key constructs are shown in Table 6.1 in Appendix B.

There are several methodologies that can be employed for analysing qualitative data, including grounded theory (Strauss & Corbin, 1994), discourse analysis (Schiffrin, Tannen, & Hamilton, 2008) and interpretive phenomenological analysis (IPA) (Smith, Flowers, & Osborn, 1997). The choice of an appropriate method should be informed by the nature of the research question(s) (Smith, Summers, Dillon, & Cogle, 2016; Willig, 2013). If the main aim of the research was to obtain insight into individuals' psychological mental health in general, then IPA would have been used. Similarly, grounded theory could have been utilised if the main objective of the study was to explore the essential social processes (Smith, 2015; Willig, 2003). However, in Study 3, thematic analysis by Braun and Clarke (2006) was deemed to be the most suitable method of analysis as it could facilitate exploration of the patterns of traumatic experience themes (meanings) in the collected data.

Justification of the thematic analysis model

The analysis of qualitative data gives researchers more opportunity to discuss the processes of human beings profoundly, yet in a flexible manner which confronts social issues so as to maintain balance between the person and surrounding society. These processes of clarification of 'symbolic interactions' are considered the essential perspective to qualitative research methods, because symbolic interaction is a subjective understanding; the objective being to trigger memories in a safe setting (van den Berg, 2009). However, thematic analysis themes should be grounded, because they are essential to understanding behaviour, being the link to human sensitivity and flexibility (Golafshani, 2003). Thematic analysis is a clear and well-organised model. The researcher used this model in line with the guidance set out by Braun and Clarke

(2006, p. 96) (See a 15 - point checklist of criteria for good thematic analysis in Appendix B).

The thematic analysis model is unlimited in flexibility, and there is no right or wrong during the analysis process. Also, it has the potentiality of providing details throughout the analysis process (Antaki et al., 2007, 2003). With this model, it is easy to find and connect related themes, patterns and concepts in the collected data (e.g. Aronson, 1995, 1984; Leininger, 1985; Flick, von Kardoff, E., & Steinke 2004).

The significance of thematic analysis is that it allows researchers to find frequent traumatic experience patterns of themes (meanings) during the analysis process. At the same time, as other qualitative methods also allow the finding of themes through the process of data analysis, in this case, the collected data can be used to develop a new questionnaire to meet the main purposes of the study. Moreover, thematic analysis is a useful model that fosters the generation of unexpected insights within the collected data. It is easy to identify themes, ideas, and examine meaning (Burns, 2000), without changing the content of the data set (Krahn & Putnam, 2003). In sum, the thematic analysis model was considered appropriate for the present research, in order to address the research questions (Braun and Clarke (2006).

Thematic analysis was considered a sufficient model for exploring accumulative and repeated traumatic experiences of Palestinian adults living under extreme and continuous life-threats, related to war, political conflict, long-term blockade, shortages of food supplies, lack of medication and other external stressors. Furthermore, the study sought to understand the transactional confusion between the individuals' worries and fears (internal), and the environmental stressors (external). It also sought to understand

how people cope with the continuous threat of harm and challenging life situations (Lazarus & Folkman, 1984). This is very much applicable to the living conditions in the Gaza Strip.

Studies 1, 2 and 3, though distinct, form an encompassing body of research from validated sources related to stressful situations and anxiety in Gaza. The overarching aim was to explore the experience and prevalence of PTSD, depression and other related general psychiatric morbidity. Moreover, the goal was to identify the ways of improving adults' resilience and coping strategies in their day-to-day living conditions in Gaza.

Justification for the Qualitative Variables

The semi-structured interview questionnaire was designed by the principle researcher to enable the measurement of the variables of interest of this research among the Palestinian adults living in the Gaza Strip. The semi-structured interview comprised 14 main questions, each being followed by a maximum of four sub-questions. All of the items reflected the criteria of DSM-IV TR (2000) for trauma, PTSD, depression and general psychiatric morbidity symptoms (see the English and Arabic interview questionnaire copies in appendix B). The questionnaire asked about day-to-day living in the Gaza Strip to find out about the most important traumatic events that are related to stress in Gaza. It also aimed to understand the psychological impact of exposure to traumatic experiences on Palestinian adults, and their coping strategies for improving their day-to-day lives in Gaza.

The general aim of Study 3 was to explore and provide a more 'in-depth' understanding of the experiences of adults living in the Gaza Strip. A particular focus was on those who had been exposed to traumatic experiences and had not shown any level of psychological issues, such as stress, depression or anxiety. Here

the objective was to understand what these individuals' coping strategies were and what underpinned their resilience. The main qualitative research question, which was concerned with the effects of exposure to traumatic experiences, was: "What are the traumatic experiences of adults living in the Gaza Strip?" To address this question, the thematic analysis model by Braun and Clarke (2006) was used.

The qualitative method was used to collect subjective data from the Palestinian adults themselves, based on personal appraisals of their daily experiences. The participants were being exposed to traumatic events throughout their everyday lives. This study provides a vast collection of data from adults in Gaza, as well as analysis through semi-structured interviews, text documents, and collection materials. These can help to explain why certain external and internal moderating factors have an effect on some adults.

The rationale for using the applied method in this research is that quantitative (deductive) post-positivist and qualitative (inductive) instructional approaches are common in psychological studies, as they are consistent with any other method (Braun & Clarke 2006). Using these pragmatic approaches enabled the current researcher to: 1) answer the current research questions 2) gain knowledge of how to apply this approach in war and post-conflict research settings; and 3) to obtain accurate and generalizable findings. The findings of the whole thesis for both quantitative and qualitative approaches are integrated within the general discussion chapter.

The validity in thematic analysis

The internal validity in thematic analysis is the key issue, and it is crucially connected to its coding system. The validation is based on the interpretation of the transcripts, and whether the external validity concepts are reliable when applied to other groups within the

population (Spencer, Ritchie, Lewis & Dillon, 2003). The internal validity is usually supported by the verbatim citation (Willing, 2001) to support the analysis. This can be worked out through a constant comparison between the six phases of the thematic analysis process (see appendix B), or it can be supported and proven by two experienced researchers to confirm the validity of the interpretation.

The researcher has included all relevant data from the semi-structured interviews of the 17 adults who participated in this study to analyse, process, and produce a unique qualitative study suited to the adult population of Gaza. The themes in the current research are referred to as patterns integrated within the data set and can be identified from the initial coding. Each initial code provided a brief description of its contents with the data and the patterns of codes then being integrated to create themes (Braun & Clarke, 2006). This merging showed that some of the themes were clearly observed, but because of this analysis the researcher found that in earlier qualitative studies, the codes were hardly identifiable. This is because there were some things that were intentionally and/or unintentionally hidden, avoided, or described an event or an implicit event (Joffe, 2004).

The researcher generated a framework of code categories (see Appendix B), and then developed the main themes to include sub-themes, (see Table 6. 2: main themes and sub-themes) In order to ensure validity and transparency in the analytical process. The coding manuscript shows the themes individually in each relevant category. This manuscript also provides each theme with a specific name, a description of the theme and an example of a quote relating to each theme (see Appendix B).

It is clear that at the end of the thematic analysis process it must be ensured that the codes and the credibility of the themes are

consistent (Braun & Clarke, 2006). The focus of this part of the study was to identify the salient psychological impacts resulting from the difficult situations of day-to-day living in Gaza. As mentioned previously, the researcher conducted 17 semi-structured interviews, focusing on the participants' traumatic experiences in Gaza, family relationships, friends, work place, and the community. Each semi-structured interview lasted no longer than 60 minutes.

Throughout the 17 interviews, the researcher investigated themes and patterns, by ascribing weight, evaluating and coding using the thematic analysis model. This was undertaken to understand to what extent the participants had been affected by war, siege and other risk factors during their daily life experiences in the Gaza Strip and to understand how they were coping with such stressors.

Ethical Issues

Ethical issues were considered before participants took part in the study. They were provided with an information package, which included a consent form, information regarding the purpose of conducting this study, and an explanation of how their safety was of paramount concern.

3.3.2 Methods

Participants

The participants were 17 of adults living in the Gaza Strip. Their age ranged from 18 to 65 years ($M = 42$ years, $SD = 12.65$). The mean ages for gender were as follows: males ($M = 43$ years, $SD = 14.96$); five of the participants were female ($M = 38$ years, $SD = 6.63$). Distributions of age were as follows: 18 – 25 years, 5.9%; 26 - 35 years, 23.5%; 36 - 45 years, 35.3%; and 46 - 55 years, 23.5% (see Appendix B). All the male participants were married and their education levels were as follows: one was a university lecturer, four

held bachelor degrees, (two were teachers, one was a social worker and one was unemployed). Three held secondary school level certificates, (one was a shop owner and two were private business owners). Three held college degrees, (one was working for the Gaza city council, one was unemployed and one was working with the government). Finally, one had completed primary level schooling and was unemployed. Five of the females were housewives and their educational levels were: one held Bachelor degree; three to secondary level and one to primary level (as illustrated in Appendix B).

Interview schedule

The semi-structured interview scheduled as devised by the principle investigator of this research, was aimed to help answer the general questions of how adults were affected by difficult and stressful situations in the Gaza Strip, and what sort of coping strategies were the participants using to cope and whether they were resilient? Additionally, the schedule was designed to explore so as to obtain in-depth insights regarding other arising related matters in the Palestinian context. The intention here was to develop a comprehensive understanding of how adults make sense of their daily traumatic experiences after several wars and during current prolonged siege. This, in turn, will help in the exploration of the risk factors identified and described as being the causes of distress, depression and anxiety amongst Palestinian adults. See Chapter (6).

3.2.6 Material and Procedure

Data Collection

The data from the fieldwork were collected by the principle investigator from Gaza and the participants for the interviews were recruited through the Community Training Centre and Crisis Management (CTCCM). They all fulfilled the criteria of this study, as

they reported having lived their entire lives in Gaza. All were told of the aims of the study and asked to sign a consent form before being recorded (see consent form in appendix B). Each interview lasted approximately 60 minutes and took place in three locations: (1) houses, (2) mosques and (3) in the CTCCM. This study took place in Gaza 10 months before the 2014 war.

Semi-structured Questionnaire translation and back-translation

Translation and back translation of the semi-structured interview questionnaires were carried out. The semi-structured interview questionnaire was designed by the current researcher in both languages (Arabic and English). Back/forward translation was carried out by two bilinguals in both languages. The first reviewer was an Arabic lecturer, and the second had a PhD in English Literature. The procedure involved continuous back/forward translation between the researcher and both reviewers, as well as between the researcher and the principal supervisor. The initial completion of the questionnaire for both languages involved a back translation into English by a bilingual proof reader. Then, based on the outcome of the discussions between the current researcher and the translators, the questionnaire was modified. To avoid any restrictions regarding the applicability of the questionnaire, the final translations were in classic Arabic, which ensured that the questionnaire could be used in other Arab countries with different dialects. The versions in both languages are shown in Appendix B.

Transcription, Translation and Back-translation

The data were translated verbatim by the principle researcher from Arabic to English, and then reviewed the transcripts again to check the recording for accuracy (Braun & Clarke, 2006). The procedures for the transcribed translations of the interviews were identical to those of the semi-structured interview questionnaire. Translation and

back translation by the previous translators were carried out in order to increase the level of accuracy and the appropriateness of the wording used for analysis in the English language. These interviews were then back-translated into Arabic by a bilingual proof reader who had no previous knowledge of the Arabic version of the interviews. Finally, all ambiguous meanings or terms were then dealt with during the last discussion between the back-translators and the principle investigator.

3.2.7 Data Analysis

Coding is a systematic analysis process (see general framework - code categories in appendix B). First, the researcher should read and reread the collected dataset and navigate systematically and regularly across all data. Secondly, the researcher searches for themes, patterns, concepts, and meanings. Third, the researcher navigates through the transcripts individually and collects other related parts, linking them together in a meaningful way. Fourth, the researcher uses coding approaches. These are inductive codes developed from empirical data and the emerging themes. Fifth, the researcher uses deductive codes, which are pre-written codes and pre-existing theory and literature (Braun & Clarke 2006). Finally, the researcher uses a combination of inductive and deductive approaches to explore the changes in the person's experiences by developing thematic categories from the collected data and following the changes in these patterns across the interview.

The process of coding themes and sub-themes can be coded throughout each interview. The researcher has looked for themes through each interview and analysed them. The analysis process involves deciding themes are relevant to the research question and which are not. Then, the researcher identifies an appropriate coding system related to the research question. It is important to develop

coding categories soon after the first interview is conducted so that the analysis can be initiated at this early stage. Furthermore, the researcher starts the process of categorising and observing the interviewee as well as the interview environment and the defined codes, i.e. events, definitions of the situation codes, social and process codes, etc. (Burns, 2000). These codes are important, as they can play an essential role in showing how individuals do things during the interview setting; they also help the researcher throughout the analysis procedure in the development of codes.

3.4 Summary

The fundamental discovery from all the methods and models deployed is that the prevalence rate of PTSD and other comorbid psychological problems increase due to difficulties arising after continuous exposure to traumatic events. Quantitative (deductive) and qualitative (inductive) approaches were used to conceptualise the meaning of war and siege related trauma, PTSD, depression and general psychiatric morbidity. The research draws on the cognitive model (Ehlers and Clarks' 2000) and also builds on social cognitive theories, such as the thematic analysis model for PTSD (Braun and Clarke (2006) and the transactional theory (Lazarus & Folkman, 1984). This mixed-methods approach in research is essential for understanding and rationalising participants' reactions after exposure to traumatic experiences. Additionally, these mixed methods help to understand the impacts of war and siege as risk factors in terms of how they increase the prevalence rates of the psychological problems and how adults develop resiliency and coping strategies. Individuals find it difficult to adapt, describe or interpret traumatic experiences. Ehlers and Clark (2000) suggested that two processes can lead to a current sense of threat; first,

differences of trauma and/or its sequelae, and second, differences of memory related to a traumatic event and linkage to intrusive autobiographical memories resulting from traumatic events (Brewin et al., 2003; Halligan, Michael, Clark & Ehlers, 2003). Furthermore, Ehlers and Clark, (2000) proposed two consequences of the examination of trauma processes that occur when a traumatic event is re-examined/recollected through “cognitive processing,”

For the data analysis, SPSS statistics version 20 software was used.

In the following chapter, the results of the first quantitative study (study 1) assessing the impact of war on the prevalence rate of PTSD among young adults, adults and older adults living all their life in the Gaza Strip are presented.

Chapter 4: **Young Adults, Adults and Older Adults assessment of trauma and prevalence of PTSD**

4.1 **Introduction**

Exposure to continuous war, political violence or terror attacks have a profound negative psychological impact (Nuttman-Shwartz and Shoval-Zuckerman, 2015). Several comprehensive epidemiological surveys have been conducted in war and post-conflict nations worldwide. Amongst conflict populations, the highest prevalence rates for PTSD have been attributed to Israeli/Palestinians at 76.7 - 66.6% (Bleich et al., 2006, 2003; Thabet et al., 2013) and lowest amongst Kosovo and Albanians at 17.1% (Cardozo, Vergara, Agani, & Gotway 2000). Other notable surveys include PTSD prevalence rates in Rwandans at 24.8% (Pham, Weinstein & Longman 2004), Ugandans at 54%, (Pfeiffer & Elbert, 2011; Vinck, Pham, Eric & Weinstein, 2007) and Bosnians at 38.6%, (Powell, Rosner, Butollo, Tedeschi & Calhoun, 2003) and finally Afghans at 42.1% (Cardozo et al., 2004). Whilst excellent research has been carried out, researchers have focused on treating each conflict as a single entity (i.e. conflict) and all adults as a single group. Each conflict has a different duration, cause and exposure profile, meaning that the likelihood of experiencing trauma is different in different regions. For instance, urban civil mechanised warfare that takes place amongst a non-combative civilian population cannot be considered the same as traditional warfare between two sovereign states, where battle lines are drawn in less populated geographical regions. This insight can be inferred from the high variation in the prevalence of PTSD in different conflict areas (e.g. De Jong et al., 2001). Moreover, there are hints amongst the existing data that adults of different ages may experience different

reactions to exposure to trauma in different conflict regions. Cheung (1994) suggested that older adults who escaped the conflict in Cambodia were more likely to suffer PTSD than younger ones. This finding was replicated in Afghans over 65 years of age (Cardozo, Kaiser, Gotway, & Agani, 2003, 2000) as well as older Albanians and Kosovans (Eytan, Gex-Fabry, Toscani, Deroo, Loutan & Bovier, 2004). Furthermore, Dahl, Mutapcic & Schei, (1998) suggested that there were differences within the adult population with the onset PTSD more likely once the individual is over 25 years old. Assessments of differences of PTSD in the adult population amongst those exposed to the Israeli-Palestinian conflict are not available. To date, studies into the prevalence of PTSD in Gaza have focused on children, adolescents (e.g. De Jong et al., 2001; Madianos et al., 2011; Thabet, Thabet, & Vostanis, 2016) and most recently amongst university students (Joma'a et al., 2015; Thabet & Sultan, 2016) and medical personnel (Shamia, Thabet, & Vostanis, 2015). See also, Thabet and colleagues 2016, 2015, 2014, 2013). Hence, assessment of the adult population prevalence of PTSD in Gaza is warranted.

Several studies have examined gender differences in civilian survivors of war and post-conflict countries relate trauma (e.g. Ai, Peterson & Ubelhor, 2002; Ekblad, Prochazka & Roth, 2002; Gavrilovic, Lecic-tosevski, Knezevic & Priebe, 2002). Prevalence rates of PTSD symptoms have been consistent across conflict regions, with females reporting higher rates than males (Cahill & Pontoski, 2005; Greenberg et al., 2015; Norris & Slone, 2013; Kessler et al., 2005; 1995), with the exception of Ethiopia, where similar rates between the sexes were recorded. To date, no comparison has been made in the prevalence of PTSD between

males and females of different ages to explore whether different age groups are affected differently by conflict.

How PTSD manifests itself and is expressed is highly variable from individual to individual (DSM-5, APA, 2013). The definition of PTSD in DSM-5 requires that a person has been “exposed to actual or threatened death, serious injury, or sexual violence,” in catastrophic events such as war, rape, [siege], road accident, involving a direct or indirect threat to the physical integrity of a person, in one (or more) of the following events: “direct exposure to traumatic event(s), witnessing, in person, the event as it occurred to others” or indirect exposure by “learning” that a close relative or close friend was exposed to trauma. Indirect exposure is “experiencing repeated or extreme exposure to aversive details of the [...] event(s)” (e.g. combat, natural disaster, rape, or physical assault). These traumatic events hold the potentiality of giving rise to PTSD symptoms and other psychiatric disorders, parallel with the original specified and initial definitions of traumatic events in the earlier DSMs (DSM-5, APA, 2013). Furthermore, this definition reflects the relationship between direct, indirect, and repetitive exposure to traumatic events and the severity of the disorder. The symptoms of PTSD are often delayed, occurring weeks, months or even years after the traumatic episode (Stein et al., 2016).

This is evidenced in the vast array of symptoms that have been identified and attributed to PTSD within the modern diagnostic criteria. Despite this complexity, prevalence rates for PTSD in conflict regions have been treated as a binary phenomenon, with authors often concluding that a specific percentage of the population experience the disorder. Little consideration has been afforded as to how PTSD is experienced amongst the population and if this varies between different demographic groups. In conflict regions, PTSD

can be defined as a psychiatric condition that may occur after exposure to a life-threatening event (Ehlers & Clark, 2000) and manifests itself as intrusive thoughts, dissociative reactions, distress, disrupted sleep and/or marked physiological arousal in response to environmental triggers. A pattern of persistent avoidance of potential triggers or depression may also occur following the trauma. Importantly, to be diagnosed with PTSD an individual need only experience one of these symptoms following exposure to trauma. Once having occurred, symptoms of PTSD may persist for several years (Greenberg et al., 2015; Ogle et al., 2013).

Recent studies on the prevalence of PTSD conducted in developing countries have reported that there is a scarcity of studies in comparison to the developed world (Hall et al., 2015; Mugisha et al., 2015). In Gaza, the socioeconomic conditions deteriorated due to closure of the borders (Joma'a et al., 2015; Thabet, 2015), which in turn affected the quality of life of the inhabitants (Thabet et al., 2015, 2009; 2008). The aim of the current study was to explore the prevalence rate of PTSD among Palestinian adults in the Gaza Strip. The secondary aim was to investigate whether adults within Gaza are a homogeneous group in terms of the risk of PTSD by examining the impacts of age and gender. A tertiary aim was to investigate if PTSD was experienced in a similar way across the interaction between age and gender. It was believed, based on the limited data available, that there would be a difference in both how PTSD is experienced according to the age and gender of the respondents.

4.2 Methods and Participants

A snowball sample was used for the data collection from 500 Palestinian adult participants identified as characteristic of being exposed to similar traumatic experiences. The participants recruited

in each area of Gaza were asked to nominate other adults to participate. The field workers then met the nominees in person and explained the purpose of conducting the studies, to enable them to make a decision of whether or not they agreed to participate; those that agreed were then recruited to be interviewed. (See the justification of using snowball sampling in Chapter 3)

The same sample of 500 Palestinian adults that were recruited by snowball sampling, were used in Study 2 (213 male 42.8%: 287 female 57.2%) aged between 18–65 ($M = 38.48$, $SD = 10.73$) years were recruited from the Gaza Strip. They were divided into three age groups: young adults (group 1: 18 to 25 years old; $n=230$; 46%), adults (group 2: 26 to 49 years old; $n=190$; 38%) and older adults (group 3: 50 to 65 years old; $n=70$; 14%).

With regards to the participants' marital status, 44.6% were single and 52.3% were married and the balance unclassified. The participants were evenly split between the four districts of the Gaza Strip, i.e. 25% from each area (North, South, West (Gaza City) and Middle of Gaza. In terms of educational level, 40.2% of the participants held a bachelor's degree, 25.6% had the international equivalent to 'A levels' in the UK, 17.4% had a diploma degree, 11.2% had secondary education, 3% had master's degree and 2.6% had been educated to primary level.

4.3 Materials

The Gaza PTSD Checklist (PTSDC) for adults

The DSM-IV TR (2000) Arabic version of the PTSD Checklist (PTSDC) was developed by Thabet, Tawahina, El Sarraj, & Vostanis, (2008). The Gaza PTSD Checklist, based on the psychometric properties of the PTSD Checklist (PCL) scores of Blanchard, Jones-Alexander, Buckley & Forneris, (1996) and

Weathers, Litz, Herman, Huska & Keane, (1993), showed high reliability and validity (Thabet et al., 2008). The current Arabic version was used to assess the most common traumatic events experienced by individuals affected by the wars in Gaza (Thabet et al., 2009). The PTSDC comprises 17 items of PTSD symptoms adapted from the DSM-IV criteria (APA, 1994). Participants were asked to rate both the frequency and severity for each item on a 5-point Likert scale (1 = “never” to 5 = “always”) to indicate the degree to which they have been troubled by that particular symptom over the past month. To determine whether an individual met the full criteria of DSM-IV for PTSD, he or she had to have experienced at least one or more symptoms from criterion B (1 – 5), at least three or more symptoms from criterion C (6 – 12) and at least two or more symptoms from criterion D (13 – 17) (APA, 2000). Thabet et al. (2008) suggested a cut off score of 3 for each item following exposure to trauma. Thus, a total symptom severity score ranging from 0-85 can be obtained by summing the scores. The PTSD threshold scores were categorised into five groups as mentioned earlier in this chapter: 0 -19 = without symptoms, 20-39 = few symptoms, 40-59 = mild, 60 – 79 = moderate and ≥ 80 =very severe PTSD symptomatology (Weathers and colleagues, 2001). Furthermore, the cut off for subscale scores for intrusion, avoidance, hyperarousal PTSD symptoms, can be calculated separately for frequency and severity (Shamia et al., 2015; Thabet et al., 2008).

The current Arabic version of the PTSD Checklist has been validated and extensively used in all Arabic countries, including the Gaza Strip, being still in use today (Shamia et al., 2015; Thabet et al., 2015). Shamia et al. (2015) found PTSDC has high internal consistency (Cronbach's $\alpha = 0.91$). Also, Madianos and colleagues (2011) reported high reliability of the PTSDC ($\alpha = 0.89$). This

indicates higher internal consistency in the Arabic version of the Gaza Checklist. Thabet and colleagues (2015, 2009; 2008; 2007; 2004) reported high internal consistency and reliability of the scale ($\alpha = 0.88$).

The current study is in line with most of the more recent and previous Arabic studies. The internal consistency ($\alpha = 0.97$), and the split-half correlation coefficient was 0.68 ($p < 0.01$), all indicating high internal reliability. These findings confirmed that the 17 items of the scale have strong validity and internal consistency. All of the subscales correlated significantly with the PTSD symptom score ($p < 0.001$). Equivalence was shown between the first and second subscale, and the results were in line with previous research.

4.4 Procedure

Dr. Abu Hein (Al-Aqsa University, Psychologist - Palestine, Gaza Strip) collected data for the purpose of this quantitative study. They were collected between March 27th and May 2014. A team of eight mental health professionals was trained (four male and four female) for data collection and they attended each participant's house in person. The participants completed the Gaza PTSD checklist, which predicted traumatic experiences and prevalence of PTSD. They were also asked about the type, severity and exposure to lifetime traumatic experiences during war and associated variables of risk that can lead to PTSD. Socio-demographic variables (e.g. gender and age) were found to be associated with increased prevalence rates of PTSD symptoms.

All participants were given a package containing ethical approval provided by the Brunel University London Research Committee, which included the essential aims for conducting the research, the procedure, participant information and assurances of

confidentiality. The participants were informed about the consequences of participation in this study, and were then asked to sign the consent form before proceeding. Each interview lasted approximately 20 minutes.

Statistical Analysis

All analyses were undertaken using the IBM SPSS version 20 for Windows. Means, standard deviations, Cronbach's alphas, and correlations matrixes for all the continuous variables were computed to summarise the distribution of values for each variable. Independent variables, such as the socio-demographic variables, were investigated in terms of their relationship with trauma and PTSD.

One-way ANOVAs and *t*-tests were used to determine any significant differences in the data following successful completion of the standard parametric preliminary analysis. ANOVA (univariate) was used to explore interactions between ages and the effects of gender on the prevalence of PTSD and symptoms, re-experiences, avoidance and arousal. Post-hoc, *t*-tests and multivariate analysis of variance (MANOVA) were used to identify significant differences.

4.5 Results

The PTSD threshold scores were categorised into five groups as mentioned earlier in this chapter: 0 -19 = without symptoms, 20-39 = few symptoms, 40-59 = mild, 60 – 79 = moderate and ≥ 80 =very severe PTSD symptomatology (Weathers et al., 2001). In this study, only 10% of the sample reported no symptoms of PTSD, whilst 53.3% reported mild symptoms (can be considered a post-traumatic reaction) and 36.7% reported symptoms of a moderate level or higher. The prevalence rate of PTSD was 33.7% for males and

38.9% females. In relation to age, 25.7% of young adults, 37.8% of adults and 45.7% of older adults had PTSD.

The results showed that there were significant differences in the prevalence rate of PTSD between males and females in the adult group only, MANOVA $F(3,498) = 4.49$; $p < 0.011$), which was just attributable to the re-experiencing subscale, $F(1, 469) = 8.58$; $p = 0.004$. Post-hoc, t -tests revealed that female adults had a significantly higher prevalence of PTSD (40.12 ± 9.97) compared to adult males (37.02 ± 10.92) $t(232) = 2.72$; $p = 0.07$).

Analysis of the variance showed that there were significant differences in the prevalence rate of PTSD across young adults, adults and older adults, $F(6,498) = 3.75$; $p < 0.001$), which was owing to the re-experiencing subscale only $F(2,492) = 4.55$; $p < 0.01$). That is, this was due to female adults (14.23 ± 4.30); $t(287) = 2.22$; $p = 0.027$) and older female adults (14.60 ± 4.19): $t(310) = 2.15$; $p = 0.032$) scoring significantly higher than young female adults (12.74 ± 3.99) on the re-experiencing subscale of the PTSD measure. Moreover, female adults and older female adults were not significantly different to one another on this subscale $t(258) = 0.46$; $p = 0.65$). The following Table 4.1 shows the means and standard deviations for the different age/gender groups; numbers shown in bold are significant at the 5% level.

Table 4. 1 Mean and stander deviation of different age/gender groups

Mean±Standard deviation	Young adult (n=230)		Adult (n=190)		Older Adult (n=70)	
	male Mean±Std. Deviation	Female Mean±Std. Deviation	Male Mean±Std. Deviation	Female Mean±Std. Deviation	Male Mean±Std. Deviation	Female Mean±Std. Deviation
PTSD Scale	37.36±10.19	38.28±11.39	37.02±10.92	40.12±9.97*	36.07±10.31	39.56±10.01
subscale of PTSD re-experience	11.66±3.80	12.74±3.99	13.30±4.20	14.23±4.30***	13.12±4.24	14.60±4.19
subscale of PTSD avoidance	13.46±4.72	13.72±5.20	13.30±4.99	13.44±4.63	14.30±5.38	14.00±4.71
subscale of PTSD hyperarousal	12.22±3.84*	11.81±4.40	11.51±4.00	12.83±4.41	11.65±4.15	10.96±3.83

*=p<0.05 **=p<0.01 ***=p<0.001

Education $F(6,491) = 1.43$; $p = 0.20$), marital status $t(477) = 1.27$; $p = 0.20$) and area of the Gaza strip that the participants inhabited $F(3, 494) = 1.58$; $p = 0.19$) did not have a significant impact on PTSD status in this study. However, when the data was analysed by subscales, some interesting interactions were observed. The results showed statistically significant differences between the residence locations and hyperarousal symptoms after exposure to traumatic events $F(3,496) = 4.17$, $p < 0.01$). Accordingly, people who lived in Gaza City scored significantly higher on the PTSD subscale for hyperarousal compared to those living in the middle Gaza region $t(248) = 3.43$; $p < 0.001$). In comparison other areas were not significant on re-experience subscale $F(3,496) = 2.07$, $p = 0.10$) and avoidance subscale $F(3,496) = .093$, $p = 0.43$). It appears that participants residing in Gaza City had greater levels of hyperarousal symptoms after experiencing trauma than those living in the other regions of the Gaza Strip, but no statistically significant differences were observed in the other areas.

4.6 Discussion

The prevalence rate of PTSD symptoms among Palestinian participants in Gaza (two months before the war in July 2014) was 90%, of which 53.3% reported mild symptoms are recognised as post-traumatic reactions (DSM-5) and 36.7% reported symptoms of a moderate level or higher. The rates in this study are in line with most other war and post conflict countries. For example, Kessler et al. (2009) found the prevalence rates of PTSD ranged from 17% to 69%, with the highest ratios between 28 to 44%, (e.g. Cardozo et al., 2004; Powell, et al., 2003). The results also showed that there were significant differences in PTSD according to gender. Females generally reported higher rates than males. This is consistent with

other researchers (Ai et al., 2002; Ullman & Filipas, 2005), who found that female participants were more likely than male participants to meet the criteria for PTSD in war and conflict areas. The high PTSD scores among female adults and older adults are mostly due to higher exposure to direct traumatic events and vulnerability to mental illness during war than other cohorts (Kimerling et al., 2002). The potential interpretations of these findings can be subjected to unknown factors that can mislead some of the scales items, which can manifest themselves in a form that can further intensify the impact of major stressors. Theoretically, this interpretation is supported by Ehlers and Clark's (2000, p. 320) cognitive model of PTSD. This model proposes that exposure to a traumatic event leads to 'idiosyncratic,' negative appraisals that give rise to a sense of current threat, as classified in PTSD symptomology. This negative appraisal develops during the course of the individual's information processes, through 'exaggeration' responses and 'over-generalisation' of normal experiences, as a result of the traumatic events and/or stressful situations.

Similar to other conflict regions, the results show that there were significant differences in PTSD according to age group. Older adults (50 years old and above) were more likely to develop PTSD symptoms than young adults (18 - 25 years old) and adults (26-49 years old) (Cardozo et al., 2003, 2000; Dahl et al., 1998; Eytan et al., 2004). The novel finding of the present study was that differences between age and sex were attributable to the re-experiencing subscale only, rather than the avoidance or hyperarousal subscales. Adults and older adults were not significantly different from one another on this subscale.

Moreover, the results reveal that education and marital status in the Gaza strip did not have a significant effect on the prevalence

of PTSD. In contrast, another novel finding was that the area of residency did impact on PTSD prevalence. Specifically, young male adults living in Gaza City scored significantly higher on the PTSD subscale for hyperarousal compared to those living in the middle Gaza region. Variability in prevalence rates of PTSD in this study may be attributed to the geographic location of Gaza City, intensity of exposure and duration. Gaza City is the most targeted place during any war aggression due to several reasons, these include: the presence of governmental buildings and homes of senior political leaders, the short distance to the Israeli border (2 km) and due to the high population density compared to other areas. Consequently, people living in Gaza City are continuously exposed directly to war related trauma, which significantly contributes to more psychological and physical illness than elsewhere in the Gaza Strip (Farhood et al., 2012; Schnurr & Green, 2004). See also, (Mollica, et al., 1998; Perkonig, et al., 2000; Thabet & Vostanis, 1999)

The implications of this study are two-fold. Firstly, the understanding acquired regarding the characteristics of adults who carry the highest risk of PTSD, according to age group and sex, will allow for better targeted community-based treatment (Creamer & Parslow, 2008). For example, in crisis situations, a rapid response based on the family and community support system is an affective prevention approach (Falloon & Fadden, 1995; Mitchell, Florin & Stevenson, 2002). secondly, Family and community support along with psychological aid, can be considered as the first step in alleviating PTSD symptoms and plays a crucial role in the recovery from a traumatic event, as it can mediate the impact of exposure to war related trauma (Eisenbruch, de Jong & van de Put, 2004; Hobfoll et al., 2007).

4.7 Limitations and Strengths

In view of the nature of cross-sectional design studies, their results are limited due to sample variability, instruments used and the time-lapse of assessment since the trauma occurred. The current study is a descriptive community study, not seeking a clinical diagnosis and therefore, snowball sampling was used. In a snowball sample, the first group may pose a negative influence on the nominees which are recruited to participate in the study, causing an element of bias. Therefore, the samples may be focused towards the more cooperative participants, who are willing to engage in the study (Peterson & Valdez, 2005).

The participant groups differed in terms of age and gender. Despite the adjustment for the socio-demographic differences, the effects of age and gender on prevalence of PTSD were substantial. Moreover, the study did not give an account for cultural differences in response patterns, as the assumption was made that the DSM-IV model has diagnostic validity across cultures.

This study did not involve assessing all common mental disorders, such as depression and general anxiety, which are common disorders often combined with PTSD. Considering these combined disorders would have strengthened the study. Further qualitative research using the structured clinical interviews needs to be conducted to compare the current findings (Farhood et al., 2012; Silove et al., 2007), which will improve the validity of the study's results. In addition, the data collection involved the recall of past traumatic events and consequently, the respondents were interviewed based on their subjective accounts, which could have been subject to biased symptoms reporting.

Using a Snowball sample enables the researcher to locate populations that may be hidden or difficult to reach in war and

conflict situations. It also assists in locating participants of a specific population, as the researcher can use a previous contact to allow them to recruit new participants. Additionally, Snowball sampling reduces the costs and time invested by the researcher, as complex planning or staffing is not required in comparison to other recruitment methodologies. In challenging circumstances such as war and conflict and when other recruitment methodologies cannot be employed, this sampling method can be used in both alternative and complementary research methods, in order to enhance the quality and efficacy of the research.

Considering age and gender together, whilst female adults and old adults scored higher on the subscale of re-experience, young male adults scored higher on the hyperarousal subscale, which should be noted as a potential trend to be monitored in future studies on PTSD in conflict regions. In addition, this study recruited a large national sample of Palestinian adults, which meant that the sample was representative of the general population.

4.8 Summary

This is the first cross-sectional study to be conducted aimed at examining the prevalence rate of PTSD among adults living all their life in the Gaza Strip. The outcomes of this study have produced a sufficient dataset that has allowed the researcher to identify and understand the risk factors pertaining to the high prevalence rate of PTSD in the context of age and sex among Palestinian adults. The results of this study new insights to an emerging body of research and draw awareness to the lack of research and understanding in relation to traumatised adults in the Gaza Strip.

Main stream research conducted in Gaza has suggested that PTSD and other psychological problems are prevalent. The most noted demographic risk factors for PTSD have been observed in females and older adults (Kessler et al., 2009, 2005, 1995). In line with other adult PTSD studies, intrusive memories, flashbacks and exposure to traumatic reminders have been found to be the strongest predictors of PTSD in this study (Ehlers, Hackmann, & Michael, 2004).

Today, PTSD is very common disorder and can afflict some people who have experienced a traumatic event involving serious injury or a threat to life (Palattiyil & Sidhva, 2015). The current definition of PTSD, in accordance with the variable of war trauma, now includes other types of exposure to trauma, such as assault, loss of home/job and health issues like HIV/AIDS, cancer and re-experience, especially when issues of poverty, security, and food are a daily reality. At particularly risk are emotionally vulnerable individuals who have the potential to develop PTSD symptoms. All of the above pertains to a society living under military occupation and blockade, as in Gaza.

War and post-conflict literatures indicate that civilians who are living in the combat areas are more likely to be affected than their counterparts living elsewhere (Greenberg et al., 2015; Ogle et al., 2013). Moreover, people who live in conflict areas are more likely to develop PTSD and other mental disorders than was originally predicted (Brewin et al., 2000; Greenberg et al., 2015; Kessler et al., 1995). Accordingly, it is often difficult to predict which specific factors cause PTSD (Greenberg et al., 2015; Waddington et al., 2003). To overcome some of the limitations of this study, longitudinal studies are essential for strengthening the evidence based optimal treatment approaches, which could be a major step forward in the

development of new treatments for PTSD. In addition, combining structural clinical interviews with measurement scales can yield more useful and valid results, which can offer a broader perspective, thereby providing better understanding of the prevalence rate of PTSD in war and conflict regions.

In the following chapter, the second quantitative study (study 2) seeks to estimate the prevalence and predictor factors for PTSD, depression and general psychiatric morbidity amongst the adult population in Gaza.

Chapter 5: Prevalence and predictor factors for PTSD, depression and general psychiatric morbidity amongst the adult population in Gaza

5.1 Introduction

Exposure to trauma is a precondition for the diagnosis of PTSD combined with a variety of other negative psychiatric and physical health outcomes (e.g. Benjet et al., 2016; Breslau et al., 1998; Galea et al., 2005; Kilpatrick et al., 2013; Ferrari et al., 2013; Nuttman-Shwartz and Shoval-Zuckerman, 2015; Shamia, Thabet & Vostanis, 2015; 2009; Turner & Lloyd, 1995). An epidemiological survey of 28 countries estimated the prevalence rate of PTSD was 18.1% (Kessler and colleagues, 2009). The First National Comorbidity Survey (NCS) replicated these findings (Kessler et al., 2006). There is consensus that PTSD is commonly comorbid with other psychiatric disorders. In particular, depression and anxiety are frequently associated with it due to similar expression of symptoms (e. g. Ball & Stein, 2012; Ballenger et al., 2004 Breslau et al., 2002; Davidson, Hughes, Blazer & George, 1991; Kessler et al., 2005, 1995; Wanklyn et al., 2016). For example, in the NCS, Kessler found substantial comorbidities of PTSD combined with the following disorders: the criteria of C avoidance and D hyperarousal symptoms of PTSD (e.g. C4, diminished interest, C6, restricted variety of distress (i.e. that individual unable to have loving feelings) and C7 sense of foreshortened future, D1 sleep difficulties and D3 difficulty concentrating) overlap with depression symptoms. While criterion D symptoms (e.g. D2 irritability, D4 hypervigilance and D5 being startled) overlap with all types of anxiety disorder, and criterion B4 and B5 are triggered intrusive psychological distress and

physiological reactivity, regularly overlaps with social phobia and panic disorder.

In a National Comorbidity Survey by Breslau et al. (2000), 83% of the respondents met the full criteria of PTSD and at least one other mental disorder. Males showed a higher comorbidity rate than females, the figures being 88% and 79%, respectively. Conversely, an Australian National Survey of Mental Health found 85% of the females with PTSD had other mental disorder, whilst only 80% of males with PTSD also had depression (Creamer et al., 2001). This finding has been verified through other studies (Breslau et al., 1996; Kessler et al., 1995). The rates of PTSD comorbid with depression have been shown by several researchers to be higher in populations living with war, compared to rates in general populations. For example, Marshall et al. (2005) reported that 71% of Cambodian adults who had experienced war still met the criteria for depression even after 20 years of being relocated to the United States. Furthermore, 86% of the Cambodian participants who had been diagnosed with major depression had PTSD.

Several studies have reported that the prevalence rate of depression ranges from 25% - 50%. Mood disorders co-morbid with PTSD often occur one year after a traumatic event; the duration usually lasting between three and six months (Bolster, 2015; Ducrocq et al., 2001; Kessler, 2005). Epidemiological studies revealed that there was, indeed, war related comorbidity between PTSD and depression in affected populations. Without reference to severity, Kessler indicated that 78% of adults showed a comorbidity of PTSD with depression and other psychiatric disorders. Further, the prevalence rates for depression increased from 48% to 51% and frequently occurred with PTSD combined with anxiety (Kessler et al., 1996; 1995). According to a Palestinian study by Medionas et al.

(2011), the prevalence rate for chronic PTSD alone was 26.5%, whilst that for chronic PTSD comorbid with lifetime depression was 18.7%. Only 6.1% of the participants suffered from severe depression. Medionas and colleagues concluded that living under prolonged mass violence and economic ruin has led to high rates of PTSD comorbid with depression and other mental disorders amongst adults.

Socio-demographic variables play a significant role as risk factors in relation to the prevalence of PTSD and depression. For example, the onset of PTSD has been found typically to start in early childhood and adolescence (Thabet & Vostanis, 2004), which was also showed by Kessler et al. (2005). In relation to gender, in war and post-conflict countries, the exposure to cultural risk factors have more influence on females than males; married women showed higher lifetime prevalence rates of depression and PTSD, especially widowed women (Thabet et al., 2009, 2008).

Where men have been directly exposed to war trauma, they generally show higher rates of PTSD (Hobfoll et al., 2008; Kessler et al., 2008, 1995). Thus, exposure to a traumatic event increases the probability of a psychological disorder occurring (Resnick, Kilpatrick, Dansky, Saunders & Best, 1993). Low educational levels for both genders been shown to be a strong risk factor for experiencing PTSD and depression, which also increases the lifetime prevalence of this comorbidity among adults (Sundin et al., 2014, 2010, 2009; Tolin & Foa, 2006).

The place of residency in a conflict zone has a significant influence on the prevalence rates of PTSD. That is, those living closer to the conflict are more likely to suffer from PTSD. Kessler et al. (1994) reported that high lifetime prevalence of PTSD is positively

associated with lower socioeconomic status and socio-demographic factors e.g. place of residence.

In Palestinian society, particularly in Gaza, the exposure to direct or indirect trauma is common (El-Sarraj & Qouta, 2005; Khamis, 2005 Thabet et al., 2009, 2008). The risk factors or potential variable predictors in Gaza consist of the following socio-demographic variables: age and gender, war and blockade, marital status, residential location and level of education.

The present study was focused specifically on adults of both genders, who have been continuously exposed to war and suffering under prolonged blockade and go on to develop complex PTSD comorbid with depression and general psychiatric disorders. With this understanding, the impact of war and siege on the prevalence rate of PTSD and depression as well as general psychiatric morbidity among Palestinian adults in the Gaza Strip was examined.

The aim of this study is to determine the prevalence and predictor factors comorbid with PTSD, depression and general psychiatric morbidity among the Palestinian adult population living in Gaza, under serious traumatic exposure involving deaths, injuries or a threat to life. It was believed based on the limited data available that there would be a difference in both how PTSD is experienced based on the age and sex of the respondents. In order to achieve the above aims and objectives, the following research hypotheses are tested throughout this chapter.

5.2 Hypotheses

Hypothesis 1: The prevalence rates of PTSD and depression among females are higher relative to males.

Hypothesis 2: Age is positively associated with the degree of trauma and PTSD.

Hypothesis 3: There is a positive relationship between war and siege and the severity of trauma and PTSD.

Hypothesis 4: There are positive associations between residential location and trauma, PTSD and depression.

Hypothesis 5: There are negative associations of educational levels with degree of trauma, PTSD and depression.

Hypothesis 6: There are negative associations of marital status with trauma, PTSD and depression.

5.3 Methods

Participants

The same snowball sample of 500 Palestinian adults were used for this Study 2 (213 male 42.8%: 287 female 57.2%) aged between 18–65 ($M = 38.48$, $SD = 10.73$) years were recruited from the Gaza Strip. See p 102, in chapter 4 Study 1.

5.4 Materials

5.4.1 The Gaza Siege Checklist

The Gaza Siege Checklist was developed by the Gaza Community Mental Health Programmes (GCMHP, 2008) to assess the siege impacts on the Palestinian adults who had the prolonged current siege. This scale consists of 21 items covering a wide range of daily life situations affected by the Gaza siege, including family, health, education, social life, and economic issues (e.g. prices have sharply increased: “I feel I am in a big prison, and I cannot find some of the necessary things for my children (milk, baby napkins)” (see the Gaza Siege Checklist in Appendix A). The purpose of using this scale is to measure the effect of siege on trauma and PTSD symptomology, depression and other related psychological symptoms. Participants responded with “Yes” (coded 1) or “No” (coded 0) to each item. A mean score was created by adding up all

the positive responses (i.e. participants who replied with 'yes') for each participant, divided by the total number of items (21). Thus, high scores indicate high levels of siege-caused PTSD symptoms (Thabet et al., 2008).

Thabet and colleagues (2008) reported adequate reliability and consistency for the Gaza Siege Checklist when testing adults living in Gaza ($\alpha = 0.72$), and the results of the current study showed high internal consistency and reliability ($\alpha = 0.80$). For the present study, participants with a total score of 10 and below were categorised as non/low-sufferers (coded 1), whereas those with a total score of 11 and above were categorised as suffering from siege caused PTSD and depression (coded 2).

5.4.2 The Gaza PTSD Checklist (PTSDC) for adults

The DSM-IV TR (2000) Arabic version of the PTSD Checklist (PTSDC) was used for Study 1 and 2 (see chapter 3 for more details and also, see the PTSDC in appendix A). It comprises 17 items of PTSD symptoms adapted from the DSM-IV criteria (APA 1994). The items are divided into three subscales a) re-experiences, b) avoidance and c) arousal. The scores for the scale and subscales are valid and showed high reliability and validity based on Blanchard et al. (1996) and Weathers et al. (1993), for predicting the prevalence rate of PTSD among Palestinian adults in Gaza. The participants were asked to rate both the frequency and severity for each item on a 5-point Likert scale (1 = "never" to 5 = "always") to indicate the degree to which they had been troubled by that particular symptom over the past month, whereby a total symptom severity score ranging from 0 to 85 can be obtained by summing the scores. The cut off score of 3 for each item is used to determine whether an individual meets the full DSM-IV symptom criteria, as defined by at least one or more symptom from the B items and at

least three or more from the C items and at least two or more from those in D items (APA, 2000). The PTSD threshold scores are categorised into five groups: 0 - 19 = no/few symptoms, 20 - 39 = symptoms, 40 - 59 = mild symptoms, 60 – 79 moderate symptoms and ≥ 80 = very severe PTSD symptomatology (Weathers et al., 2001). Furthermore, the cut off for subscale scores can be calculated separately for frequency and severity (Shamia et al., 2015; Thabet et al., 2008).

The PTSDC has been validated and is still extensively used in all Arabic countries, including the Gaza Strip. Shamia et al. (2015) found that it has high internal consistency ($\alpha = 0.91$), whilst Madianos and colleagues (2011) reported this to be ($\alpha = 0.89$) and Thabet and colleagues (2009; 2008) reported ($\alpha = 0.88$).

The psychometric properties for the PTSDC were examined in the current study and showed a Cronbach's alpha of ($\alpha = 0.97$). This finding provides evidence to support the content validity and reliability of the PTSDC as a measure of the prevalence rate of PTSD in adults in Gaza as well as in all Arab countries. These findings confirm that the 17 items of the scale and subscales have strong validity and internal consistency with the PTSD symptom score ($p < 0.001$). Equivalence was shown between the first and second subscale and the results were in line with previous research.

5.4.3 General Health Questionnaire-28 (GHQ-28) (Thabet & Vostanis, 2005)

The Arabic version of GHQ-28 was used, for which the items can be divided into four subscales: a) somatic symptoms; b) anxiety/insomnia; c) social dysfunction; and d) severe depression (see GHQ-28 scale in appendix A). The scale and subscales are valid tools for assessing an adult's general psychiatric morbidity (Goldberg, & Hillier, 1979, 1987; Thabet & Vostanis, 2005).

A Cronbach's alpha of ($\alpha = 0.91$) was found using the Arabic version (Thabet & Vostanis, 2005), which revealed that there were significant and strong internal consistency in GHQ-28 using the Gaza sample.

The psychometric properties for GHQ-28 were examined in the current study and showed a Cronbach's alpha of ($\alpha = 0.90$), as well as for the four subscales (as seen in Chapter 3). In addition, the current study provides evidence to support the content validity and reliability of GHQ-28 as a measure of general psychiatric morbidity in adults in Gaza as well as in Arab countries.

The participants were asked to respond to each item on a 4-point Likert scale (0="better than usual" to 3 ="much worse than usual"), for each item, with a total score from 0 to 84. A score of less than 24 indicated wellness, while a score of more than 24 signified distress (Goldberg & Williams, 1988; Quinlivan & Condon, 2005; Thabet & Vostanis, 2005). The score for each item was added in order to obtain a total score for each subscale, as well as all subscales for the total score.

The cut-off point for the GHQ-28 of 4 or 5 was used to determine the threshold score for possibly psychiatric cases (Bridges & Goldberg, 1987; Quinlivan & Condon, 2005; Thabet and colleague, 2005). A score of 4 or less indicated no/low comorbidity group, coded as 1, whereas those with a score of 5 and above indicated high comorbidity group, coded as 2. This cut-off criterion is supported by (Farhood et al., 2003; Goldberg et al., 1997, 1987; Thabet et al., 2005).

5.4.4 Beck Depression Inventory-II (BDI-II) (Arabic version)

The BDI-II Arabic version consists of 21 items (Ghareeb, 2000; see also Al-Musawi, 2001) and was used to measure the prevalence and severity of depression (see chapter 3 and also, see BDI-II Arabic version in appendix A). Participants were instructed to

answer all the questions (e.g. “I feel sad, I am pessimistic about the future and I experience suicidal thoughts”). Each item relates to symptoms of depression and each is based on the previous two-week time period, entered on a 4-point Likert scale (0 = “No”, to 3= “frequently”). Four depression intensity levels were identified: participants with no depression scored between 0 - 13 (coded 1); participants with mild scored from 14 - 19 (coded 2); those with a moderate score from 20 - 28 (coded 3); and participants with severe depression scored 29 - 63 (coded 4).

The inventory was adapted for use with all Arab adults (Al-Musawi, 2001; Ghareeb, 2000). The coefficient alpha was found to be ranging from 0.82 to 0.93. In Gaza Madianos and colleagues (2012) reported a Cronbach’s alpha coefficient of $\alpha = 0.87$, similarly, the psychometric properties for BDI-II were examined.

The current study showed a Cronbach’s alpha of $\alpha = 0.89$, which was consistent with those above from other Arabic countries (e.g., Alansari, 2005; Al-Musawi, 2001; Ghareeb, 2000). Furthermore, this study revealed that the items of the Arabic version highly correlate with each other. Consequently, the validity and reliability of BDI-II Arabic version has been replicated in this study, in the context of the Arab clinical and non-clinical adult populations (e.g. Abdel-Kalek, 1998; Alansari, 2005; Al-Musawi, 2001; Ghareeb, 2000). That is, this indicates that the Beck Depression Inventory items have a high validity and reliability among Palestinian adults living in the Gaza Strip.

5.5 Procedure

In study 2, the same sample of participants and procedures were used as in study 1 (see pp110 and 111).

5.6 Statistical Analysis

All analyses were undertaken in IBM SPSS statistic version 20 for Windows. Means, standard deviations, Cronbach's alphas and correlation matrixes for all continuous variables were computed to summarise the distribution of values for each variable. Independent variables, such as the socio-demographic variables, were investigated in terms of their relationship with trauma and PTSD.

One-way ANOVAs and *t*-tests were used to determine significant differences in the data following successful completion of the standard parametric preliminary analysis. ANOVA (univariate) was used to explore the interactions between ages and the effects of gender on the prevalence of PTSD and symptoms, re-experiences, avoidance and arousal. Post-hoc tests and multivariate analysis of variance (MANOVA) were used to explore significant differences. One-way ANOVA results were used to evaluate Hypotheses H2, H4 and H5.

Scheffe's test was employed for all possible contrasts in order to carry out a comparison between the four residential locations, i.e. to identify differences between places of residence in relation to other variables. A *t*-test was conducted to determine whether there were differences in PTSD and depression between females and males; *t*-test results were used to evaluate Hypotheses H1 and H6.

Pearson's correlation coefficients have been used alongside the ANOVA analyses to identify the relationships between the negative psychological variables as a result of traumatic experiences (Spurrier, 2003). The correlation two-tailed matrix between psychological variables was used to determine the correlation between the four measurement scales. Relationships between the total scores from the Spearman correlations were specified and used

to test the sub-scales of PTSD and GHQ-28 and its sub-scales. The Pearson correlation results were used to evaluate Hypothesis H3.

A multiple linear regression was used to predict trauma, PTSD symptoms, depression symptoms and general psychiatric morbidity based on the participant's age and gender, using a stepwise procedure.

5.7 Descriptive statistics

Means, standard deviations, and correlations for all the continuous variables are presented in table 5.1. The following summarises the results for the prevalence rate of PTSD and its severity for the entire sample ($n=500$). The correlation matrix for all continuous variables revealed a significant, positive association between the prevalence rates of PTSD, depression, and general psychiatric morbidity related to war; siege and other independent variables (see Table 5.1).

Table 5. 1: Means, Standard Deviations, Cronbach's alphas, and Correlation Matrix

Variables	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	9
1 Gaza Checklist for PTSD	12.94	4.10	.72									
2	13.64	4.92	.70	.53**								
3	11.90	4.19	.68	.42**	.52**							
4 Siege Scale	.47	.19	.80	.30**	.37**	.31**						
5 GHQ-28	1.89	2.05	.80	.40**	.31**	.51**	.28**					
6	2.53	2.16	.78	.37**	.35**	.58**	.27**	.67**				
7	1.46	1.69	.70	.29**	.32**	.42**	.23**	.40**	.47**			
8	1.84	1.82	.73	.22**	.31**	.53**	.22**	.44**	.57**	.54**		
9 BDI-II	18.56	11.32	.89	.36**	.42**	.61**	.38**	.53**	.61**	.56**	.61**	

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

5.8 Results

5.8.1 Exposure to traumatic events

In this study, it was found that 42.1% of the participants exhibited psychological symptoms related to the blockade; 40.9% of the females and 43.6% of the males exhibited psychological problems. It was found that 50.2% of adults, 32.4% of young adults (see Table 5. 2).

Table 5. 2: The most common traumatic experiences related to blockade by age and gender

Sex			Siege Trauma		Total
			No Trauma	Trauma	
male	Age groups	Young Adults	50	28	78
		Adults	70	65	135
	Total		120 (56.3%)	93 (43.6%)	213
Female	Age Groups	Young Adults	104	46	150
		Adults	65	71	136
	Total		169 (59.1%)	117 (40.9%)	286
Total	Age Groups	Young Adults	154	74 (32.4%)	228
		Adults	135	136 (50.2%)	271
	Total		289 (57.9%)	210 (42.1%)	499

From the same sample, the most common effect of the prolonged blockade of Gaza siege items that were reported by the adults was the rapid increase in prices (87.4%). This was followed by participants feeling that they are in a big prison as a result of the blockade (82.4%). Furthermore, the participants felt their work had been drastically impacted upon due to electricity shortages (75.6%) and 72.8% felt that social visits declined significantly compared to

levels before the blockade. Sixty eight percent reported a reduction in their monthly income, 60.6% mentioned a shortage of building materials. Also, 57.8% could not find things in the market, 57.4% wished to emigrate, but were unable to do so, 34.4% were unable to secure medical care, and 25.4% had lost their livelihoods and also, 9.4% were in the preparation stage of organising their legal documents to leave Gaza. For more results see the Gaza Siege Checklist in Appendix A.

5.8.2 Prevalence rate and severity of PTSD among Palestinian adults in Gaza

Only 10% of the sample reported no symptoms of PTSD, whilst 53.3% reported mild symptoms and 36.7% reported symptoms of a moderate level or higher symptoms. Males reported 33.7% and females 38.9%, 25.7% of young adult 37.9% of adults and 45.7% of older adults had PTSD (see Table 5.3). With regards to the severity of PTSD symptoms, see Table 5.4.

Table 5. 3: The prevalence rate of PTSD grouped by age and gender

Sex			PTSD		Total
			No PTSD	PTSD	
Male	Age Groups	Young Adults	53	22	75
		Adults	63	27	90
		Older Adults	20	20	40
	Total		136(66.3%)	69(33.7%)	205
Female	Age Groups	Young Adults	103	52	155
		Adults	55	45	100
		Older Adults	16	14	30
	Total		174 (61.1%)	111 (38.9%)	285
Total	Age Groups	Young Adults	169 (73.5%)	59 (25.7%)	230
		Adults	118 (62.1%)	72 (37.9%)	190

	Older Adults	38 (54.3%)	32 (45.7%)	70
Total		310 (63.7%)	180 (36.7%)	490

Table 5. 4: The severity of the prevalence rates of PTSD symptoms

				Total
	Young Adult	Adult	Older Adults	
No PTSD	25	20	5	50
	50%	40%	10%	
Mild	131	98	33	262
	50%	37.4%	12.6%	
Moderate	66	67	30	163
	40.5%	41.1%	18.40%	
Severe	6	5	3	12

The results show that there were significant differences in the prevalence rate of PTSD between males and females in the adult group only, MANOVA $F(3,489) = 6.43; p < 0.001$), which was due to the re-experiencing subscale only. Post-hoc tests revealed that female adults had a significantly higher prevalence of PTSD (40.03 ± 10.52) compared to adult males (37.02 ± 10.92), $t(188) = 1.97, p = 0.05$), as seen in Table 5.13. The prevalence rates of PTSD among the Palestinian adults on the three subscales of PTSD were found to be: 85.5% had re-experiencing symptoms, 84.5% reported avoidance and 79.4% reported hyperarousal symptoms, as seen in Table 5.5.

Table 5. 5: The scores of the prevalence rates of PTSD on the three subscales of PTSD

Sex	PTSD: Re-										
			experience			Total Avoidance			Total Hyperarousal		Total
	No	Yes	No	Yes	No	Yes	No	Yes			
Male	Age groups	Young Adults	16	59	75	12	63	75	15	60	75
		Adults	18	72	90	13	77	90	17	73	90
		Older Adults	6	34	40	6	34	40	11	29	40
	Total		41	172	213	31	182	213	43	170	213
Female	Age groups	Young Adults	19	136	155	23	132	155	37	118	155
		Adults	8	92	100	18	82	100	16	84	100
		Older Adults	4	26	30	5	25	30	7	23	30
	Total		31	256	287	46	241	285	60	225	285
Total	Age groups	Young Adults	35	195	230	35	195	228	52	178	230
		Adults	26	146	190	31	159	272	33	157	190
		Older Adults	10	60	70	11	59	0	18	52	70
	Total		72	426 (85.5%)	500	77	421 (84.5%)	500	103	395 (79.4%)	500

5.8.3 Factors predicting PTSD among the three groups of Palestinian adults

A multiple linear regression was run to predict PTSD in young adults, adults and older adults based on their age and gender. A Stepwise procedure was used to obtain the variables that explain the distribution best. The Gaza siege Checklist total score and the BDI-II depression total score as well as the GHQ-28 subscales somatic symptoms total score and social dysfunction total score. These statistically significant variables predicted trauma and PTSD, $F(8, 221) = 28.94, p < 0.05, R^2 = 0.51$ (see Table 5.6, 5.7, 5.8 and 5.9 for young adults, adults and older adults below). In this study, it has been found that the four scales are statistically significant ($p < 0.05$).

Table 5. 6: Shows the three models summaries of young adults, adults and older adults

Model	R	R Square	Adjusted R Square	Std.Error of the Estimate	df	F	Sig.	Predictors
Young adults	.715	.51	.49	7.82	8 221	28.94	.001	(Constant), Siege Trauma Scale, Somatic symptoms total score GHQ, social Dysfunction total score GHQ, and Depression total score BDI-II
Adults	.687	.47	.49	7.90	8 182	20.28	.001	(Constant), Severe Depression total score GHQ, and Depression total score BDI-II
Older Adults	.600	.36	.28	9.02	8 61	4.28	.001	(Constant), Siege Trauma Scale and Anxiety/insomnia total score GHQ,

Table 5. 7: Multiple linear regression coefficients of predictors of comorbidity of PTSD in young Adults

Coefficients						
Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	20.130	6.584		3.057	.003
	Age	.197	.287	.033	.688	.492
	Sex	.121	1.143	.005	.106	.916
	Siege Trauma Scale	.543	.134	.212	4.053	.001
<i>young Adults</i>	Depression total score	.185	.066	.205	2.786	.006
	Somatic symptoms total score GHQ	1.593	.392	.273	4.069	.001
	Anxiety score GHQ	.686	.373	.133	1.837	.068
	dysfunction score GHQ	.901	.391	.143	2.308	.022
	Severe Depression GHQ	-.211	.370	-.037	-.570	.569

a. Dependent Variable: PTSD Scale

In adults, the same prediction factors were used to predict trauma and PTSD. In addition to the PTSD adult predictors, the BDI-II depression total score and the GHQ-28 severe depression subscale statistically significantly predicted trauma and PTSD, $F(8, 182) = 20.29$, $p < 0.05$, $R^2 = 0.47$ (see Tables 5.6 and 5.8).

Table 5. 8: Multiple linear regression coefficients of predictors of comorbidity of PTSD in Adults

Coefficients					
Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	32.587	3.912		8.329	.001
Age	-.242	.076	-.176	-3.166	.002
Sex	1.547	1.204	.073	1.285	.200
Siege Trauma Scale	.294	.171	.101	1.716	.088
Depression total score	.261	.075	.272	3.499	.001
Somatic symptoms total score GHQ	.599	.388	.116	1.542	.125
Anxiety score GHQ	.431	.442	.085	.974	.331
dysfunction score GHQ	.443	.440	.070	1.007	.315
Severe Depression GHQ	1.263	.468	.198	2.696	.008

a. Dependent Variable: PTSD Scale

In older adults, the same prediction factors were used to predict trauma and PTSD. Contrary to young adults and adults, only the Gaza siege Checklist total score and GHQ-28 anxiety/insomnia subscale total score statistically significantly predicted trauma and PTSD, $F(8, 61) = 4.28$, $p < 0.05$, $R^2 = 0.36$, as seen in Table 5.6 and see also Table 5.9 for older adults.

Table 5. 9: Multiple linear regression coefficients of predictors of comorbidity of PTSD in Older Adults

Coefficients ^a						
Model		Unstandardized		Standardized	T	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	53.106	17.067		3.112	.003
	age	-.563	.298	-.222	-1.891	.063
	sex	1.063	2.363	.050	.450	.654
	Siege Trauma Scale	.760	.324	.298	2.348	.022
	Depression total score	.292	.218	.245	1.339	.185
Older adults	Somatic symptoms total score GHQ	-.022	.710	-.005	-.031	.975
	Anxiety score GHQ	1.301	.660	.294	1.971	.053
	dysfunction score GHQ	-1.144	.896	-.175	-1.276	.207
	Severe Depression GHQ	.173	1.011	.029	.171	.865

a. Dependent Variable: PTSD Scale

5.8.4 General Health Questionnaire-28 (GHQ-28)

In this study, the mean total GHQ-28 score in the sample was found to be 8.1 out of 28 ($SD = 7.7$) (see Table 5.10). This is the average predictor (of the sample) of those who might suffer psychological problems. The results reveal that 32%% of the sample did not suffer from such disorders. They also show that there were no significant differences in the total scores of the GHQ-28 young adults, adults and older adults, $F(3,498) = 0.75$; $p = 0.52$. Similarly, there were no significant differences in the total score of GHQ-28 between males and females, $F(1,498) = 2.34$; $p = 0.13$. For the means and standard deviations for the general health scale and its sub-scales see Table 5.10

Table 5. 10: Means and standard deviations for the general health scale and its sub-scales

Psychological Problems	Mean	SD
Somatic symptoms	1.1	2.1
Anxiety/insomnia	2.7	2.2
Social dysfunctions	1.4	1.6
Severe Depression	1.9	1.8
Total General Health	8.1	7.7

Two-way ANOVA was used to analyse the interaction between age and gender for GHQ-28 and the results showed none. However, there was a significant interaction effect on the somatic subscale, $F(1, 491) = 14.01, p < 0.001$, indicating significant difference in the effect regarding age and gender. This is due to adults scoring higher than young adults and older adults, $F(1, 498) = 10.20, p < 0.01$. Within adult females (2.46 ± 2.23) scoring higher than male (1.42 ± 1.72), $t(188) = 3.55, p < 0.001$.

5.8.5 Prevalence rates of general psychiatric morbidity among Palestinian adults in Gaza

In this study, it was found that 67.1% of the participants exhibited a high rate of general psychiatric morbidity on the GHQ-28 scale and in terms of gender, 70.2% of the females and 64.9% of the males exhibited psychological problems. Whilst a proportion of the sample (34.7% of males and 29.8% of females of the overall sample) was found to exhibit no psychological problems (Table 5.11)

Table 5. 11: The percentage of general psychiatric morbidity in sample population by age and gender

	Sex	Young Adults	Adults	Older Adults	Total	
Male	GHQ	Not suffering	27(36%)	31(34.4%)	14(35.4%)	72(33.8%)
		Suffering	48(64%)	59(65.5%)	26(65%)	133(65.3%)
	Total		75	90	40	205
Female	GHQ	Not suffering	54(34.8%)	26(26.0%)	5(16.7%)	85(29.8%)
		Suffering	101(65.2)	74(74.0%)	25(69.4%)	200(70.2%)
	Total		155	100	30	285
Total	GHQ	Not suffering	81(35.2%)	57(30.0%)	19(27.1%)	157(32%)
		Suffering	149(64.8%)	133(70%)	51(72.9%)	340(67.1%)
	Total		230	190	70	490

For the subscales of GHQ-28, the participants indicated the following percentages regarding general psychiatric morbidity: 33.6% reported anxiety/insomnia, followed by somatic symptoms 22.4%, severe depression 18.6%, and social dysfunction 12.2%, as can be seen in Table 5.12.

Table 5. 12: The percentage of the Psychological problems on the GHQ's subscales among sample population

sex	GHQ		Anxiety/			social			Severe				
	Somatic		Total Insomnia			Total Dysfunction			Total Depression			Total	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes			
Male	Young												
	Adults	64	11	75	54	21	75	65	10	75	56	19	75
	Adults	77	13	90	66	24	90	77	13	90	78	12	90
	Older												
	Adults	30	10	40	24	16	40	35	5	40	78	12	90
Total		177	36	213	150	63	213	184	29	213	170	43	213
Female	Young												
	Adults	124	31	155	104	51	155	155	135	20	126	29	155
	Adults	65	35	100	61	39	100	123	13	136	87	13	100
	Older												
	Adults	30	10	40	15	15	30	92	8	100	23	7	30
Total		210	76	286	180	105	285	254	32	286	236	49	285
Total	Young												
	Adults	188	42	230	158	72	230	200	30	230	182	48	230
	Adults	142	48	190	127	63	190	169	21	190	165	25	190
	Older												
Adults	50	20	70	39	31	70	61	9	70	54	16	70	
Total		386	112 (22.4%)	499	330 (33.6%)	499	437 (12.2%)	61	499	406 (18.6%)	93	499	

The results from the sample reveal that the mean and standard deviation on the subscale for anxiety/insomnia within older adult females was 2.80 ± 2.69 , whilst that for severe depression was 2.13 ± 2.15 within young adults. For somatoform subscale within older adult males was 2.07 ± 2.47 and that for social dysfunction within young adult females was 1.71 ± 1.70 , as illustrated in Table 5.13.

Table 5. 13: Mean and standard deviation of psychological variables for males and females grouped by age groups

Mean± Standard deviation	Young Adults (n=230)		Adults (n=190)		Older Adults (n=70)		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Siege Trauma Scale	9.00±4.39	9.00±4.39	10.31±3.65	10.31±3.65	11.27±3.82	11.27±3.82	9.98±3.99	9.66±4.12
PTSD Scale	37.36±10.19	37.36±10.19	37.02±10.92	40.05±10.52*	39.07±11.13	39.07±11.13	37.77±10.58	39.00±10.84
Subscale of PTSD re- experience	11.67±3.79	12.50±3.99	13.30±4.20	14.23±4.30***	13.12±4.25	13.12±4.24	12.25±3.88	13.45±4.18
subscale of PTSD avoidance	13.47±4.73	13.46±4.72	13.3±4.99	13.30±4.94	14.3±5.38	14.30±5.38	13.62±4.90	13.641±4.93
subscale of PTSD hyperarousal	12.22±3.84*	12.22±3.85	11.51±4.00	11.51±4.00	11.65±4.154	11.65±4.15	11.89±3.96	11.90±4.35
GH-28 total score	7.37±5.97	7.37±5.97	6.63±6.13	6.63±6.14	7.92±7.15*	7.92±7.15	7.22±6.25	8.08±6.11
Somatic symptoms total score	1.36±1.71	1.36±1.71	1.42±1.72	2.46±2.23***	2.07±2.47	2.06±2.45	1.54±1.919	2.13±2.11
GHQ Anxiety score	2.17±2.00	2.17±2.00	2.267±1.91	2.27±1.92	2.8±2.69	2.80±2.69	2.352±2.10	2.65±2.19
GHQ dysfunction score	1.61±1.69	1.71±1.70	1.45±1.873	1.45±1.87	1.35±1.72	1.35±1.72	1.5305±1.77	1.41±1.61
GHQ Severe Depression	2.13±2.15	2.13±2.145	1.48±1.70	1.48±1.70	1.7±1.80	1.70±1.80	1.7981±1.92	1.87±1.75
GHQ Depression total score	17.72±11.45	17.72±11.45	17.33±11.79	17.33±11.79	16.77±9.03	16.77±9.03	17.49±11.17	19.34±11.38

5.8.6 Prevalence rate and severity of depression (BDI-II Arabic version)

A score of 0 –13 on the Arabic version of BDI-II is interpreted as minimal range and 14 –19 as mild depression, a score of 20 –28 is interpreted as moderate depression and 29 – 63 is interpreted as severe depression. An individual who reports above 19 is considered to be suffering from depression (Al-Musawi, 2001; BDI-II, 1996; Ghareeb et al., 2000). These scores were also supported by most of the Arabic version studies employing BDI-II, in particular those in Palestine and Gaza (e.g. Ghareeb et al., 2000; Al-Musawi, 2001; Alansari & Kazem, 2008; Madianos et al., 2012; Thabet, Abu Khusah, & Vostanis, 2014).

In this study, the total prevalence rate of depression in this study sample was 38.4%: 27.2% of the participants suffered from mild depression; for both genders combined (26.2% of males and 27.9% of females); 6.8% from moderate depression (3.8% of males and 9.1% of females) and 4.4% of the participants (5.2% males and 3.8% females) were suffering from severe depression, as illustrated in Table 5.14.

Table 5. 14: Prevalence rate of depression by age and gender related traumatic event

Sex	Depression Level				Total		
	No Depression	Mild depression	Moderate	Severe			
Male	Age	Young Adults	47	21	2	5	75
	Groups	Adults	64	17	3	6	90
		Older Adults	24	14	2	0	40
	Total		138(64.8%)	56(26.2%)	8(3.8%)	11(5.2%)	213
Female	Age	Young Adults	96	34	16	9	155
	Groups	Adults	54	35	9	2	100
		Older Adults	18	11	1	0	30
	Total		169(59.1%)	80(27.9%)	26(9.1%)	11(3.8%)	286
Total	Age	Young Adults	143	55	18	14	230
	Groups	Adults	118	52	12	8	190
		Older Adults	42	25	3	0	70
	Total		307(61.5%)	136(27.2%)	34(6.8%)	22(4.4%)	499
192(38.4%)							

The results show that there were no significant differences in the total depression score between young adults and adults, $t(497) = 0.83$; $p = 0.41$. They also indicate that the total mean prevalence rate of depression was (17.49 ± 11.17) for males and (19.34 ± 11.38) for females (see Table 5.13).

5.8.7 Testing the hypotheses

The analysis for Hypothesis 1 reveals that there were no differences between males and females, i.e. they were experiencing similar levels of depression. The two-sample *t*-test analysis of BDI-II does not fully support (H1), $t(1.82) = 3.496, p = 0.069$. However, it was found that the female participants had statistically significantly higher re-experience symptoms, $(14.23 \pm 4.30) t(3.25) = 3.499, p = 0.001$. Similarly, this study showed that the female participants exhibited significantly higher somatic symptoms than the males $(2.46 \pm 2.23), t(3.19) = 3.499, p = 0.001$. Consequently, the null hypothesis (H1 null) is accepted, except for re-experiencing and somatic symptoms (see Tables 5.13 and 5.15).

Table 5. 15: *t*-test results showing psychological variables for males and females

The Study Variables	n=213 Male		n= 287 Female		<i>t</i>	<i>p</i> -value
	Mean	Std.	Mean	Std.		
Siege trauma	10.0	4.0	9.7	4.1	0.82	0.42
PTSD	20.8	10.6	22.0	10.8	1.51	0.13
PTSD Re-experience symptoms	7.3	3.9	8.4	4.2	3.25	.001
PTSD Avoidance	6.6	4.9	6.6	4.9	0.06	0.96
PTSD > Arousal	6.9	4.0	6.9	4.4	0.02	0.99
Depression inventory B-II	17.5	11.2	19.3	11.4	1.82	.069
General Health GHQ	7.2	6.3	8.1	6.1	1.53	0.13
somatic symptoms	1.5	1.9	2.1	2.1	3.19	.001
Anxiety /insomnia	2.4	2.1	2.7	2.2	1.55	0.12
Social dysfunction	1.5	1.8	1.4	1.6	0.76	0.41
Severe depression	1.8	1.9	1.9	1.8	0.48	0.63
	<i>p</i> >0.05		<i>p</i> <0.05*		<i>p</i> <0.01**	

The results also show no notable difference between the two genders in response to traumatic events as a consequence of the blockade on Gaza. That is, $t(498) = 0.82$ and $p = 0.42$, which indicates that both males and females responded similarly to the siege (see 5.13 and 5.15). Moreover, the results reveal that there

were no differences in the total score of GHQ-28 between males and females $t(498) = 1.53$; $p = 0.13$. Similarly, there were no differences in the anxiety/insomnia total score of GHQ between young adults and adults, $t(498) = 1.55$; $p = 0.12$.

Psychological variables by age

The One-Way ANOVA analysis does not support Hypothesis 2 and therefore the *null* hypothesis (*H2 null*) is accepted. That is, the results did not show significant statistical differences in regards to trauma and PTSD among the different age groups. This indicates that all the participants had experienced the same degree of suffering, thereby proving that age has no effect on PTSD.

The analysis of variance shows that there were significant differences in the prevalence rate of PTSD across young adults, adults and older adults, $F(6,980) = 3.75$; $p < 0.001$, which was due to the re-experiencing subscale only, $F(2,492) = 4.55$; $p < 0.01$. This was due to adults (14.23 ± 4.30): $t(422) = 2.22$; $p = 0.027$) and older adults (13.12 ± 4.25 : $t(310) = 2.15$; $p = 0.032$) scoring significantly higher than young adults (12.50 ± 3.99) on the re-experiencing subscale of the PTSD measure. Moreover, adults and older adults were not significantly different from one another on this subscale $t(258) = 0.46$; $p = 0.65$). Table 5.13 shows the means and standard deviations for the different age/gender groups, with the numbers shown in bold representing significance at the 5% level.

Education $F(6,491) = 1.43$; $p = 0.20$, marital status $t(477) = 1.27$; $p = 0.020$ and area of the Gaza strip that the participants inhabited, $F(3, 494) = 1.58$; $p = 0.19$, did not have a significant impact on overall PTSD status in this study. However, when the data were analysed by subscales some interesting interactions were observed. When assessed by subscale, the area of inhabitation was significant. People who lived in Gaza city scored significantly higher

on the PTSD subscale for hyperarousal compared to those living in the middle Gaza region $t(248) = 3.43$; $p = 0.001$). All other comparisons between the four regions were not significant (all $p > 0.05$).

Psychological variables by war and siege

Pearson's correlation coefficients were used to identify the relationships between negative psychological variables as a result of traumatic experiences from the war on and siege of Gaza, the results of which are shown in Table 5.16.

Table 5. 16: Pearson's correlation (2-tailed) matrix between the continuous psychological variables ($n=500$)

variables		Siege scale	PTSD	GHQ-28	BDI-II
Siege scale	Pearson Correlation				
	Sig. (2-tailed) N)				
PTSD	Pearson Correlation	.402**			
	Sig. (2-tailed) N)				
GHQ-28	Pearson Correlation	.316**	.587**		
	Sig. (2-tailed)N)				
BDI-II	Pearson Correlation	.379**	.566**	.720**	
	Sig. (2-tailed)N)				

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

The correlation coefficients support Hypothesis 3 at the 99% confidence interval with a corresponding $p < 0.01$, and therefore the *null hypothesis (H3 null)* is rejected. The analysis of *H3* revealed that there is a weak correlation between PTSD, war and siege, GHQ-28 and BDI-II. The Pearson's correlation coefficients between PTSD, war and siege, GHQ-28 and BDI-II depression were 0.402, 0.587 and 0.566, respectively.

Psychological variables with respect to location of residence

One-Way ANOVA analysis was used to identify the differences in the psychological variables from one area of Gaza to another and the results are displayed in Table 5.17

Table 5. 17: One-Way ANOVA analysis on the psychological variables with respect to places of residence

Measurement scales	Psychological Variables	Source of variation	Sum of squares	Df	Mean square	F	Sign
PTSD Checklist Questionnaire	Frequency siege checklist	Between Groups	31.8	3	10.60	0.64	0.59
		Within Groups	8206.8	496	16.55		
		Total	8238.6	499			
	PTSD	Between Groups	556.0	3	185.32	1.61	0.19
		Within Groups	56994.8	496	114.91		
		Total	57550.8	499			
	Re-experience symptoms	Between Groups	103.7	3	34.57	2.07	0.10
		Within Groups	8269.6	496	16.67		
		Total	8373.3	499			
	Avoidance symptoms	Between Groups	67.5	3	22.51	0.93	0.43
		Within Groups	12001.9	496	24.20		
		Total	12069.5	499			
Arousal Symptoms	Between Groups	215.0	3	71.65	4.17	0.01	
	Within Groups	8532.0	496	17.20			
	Total	8747.0	499				
BDI-II General Health Questionnaire -28	Depression	Between Groups	290.4	3	96.80	0.75	0.52
		Within Groups	63639.0	496	128.30		
		Total	63929.4	499			
	Somatic symptoms	Between Groups	26.4	3	8.80	2.10	0.10
		Within Groups	2077.6	496	4.19		
		Total	2104.0	499			
	Anxiety	Between Groups	25.0	3	8.33	1.80	0.15
		Within Groups	2297.7	496	4.63		
		Total	2322.7	499			
	Social dysfunction	Between Groups	6.6	3	2.20	0.29	0.75
		Within Groups					

		Within Groups Total	1421.8 496	2.87		
		Total	1428.4 499			
General health		Between Groups	191.0 3	63.66 2.03		0.13
		Within Groups	18906.7 496	38.12		
		Total	19097.7 499			
	$p>0.05$		$p<0.05^*$			$p<0.01^{**}$

The one-way ANOVA analysis did not support Hypothesis 4 and therefore the null hypothesis (*H4 null*) is accepted. The results did not show significant statistical differences in some variables (siege related traumatic experiences, PTSD, depression and general mental health) across the four residential locations in Gaza. This indicates that participants living in the North, South, West (Gaza City) and Middle of Gaza had the same degree of suffering, thus providing evidence that location of residence has little effect on the negative psychological variables.

The results, however, showed statistically significant differences between the residence locations and hyperarousal symptoms after exposure to traumatic events $F(3,496) = 4.17, p < 0.01$). *Scheffe's Test* was used in order to carry out a comparison and it appears that participants residing in Gaza City had greater levels of hyperarousal symptoms after experiencing trauma than those living in the other regions of the Gaza Strip, but no statistically significant differences were observed in the other areas.

Psychological variables with respect to education

One-way ANOVA was also used to study the psychological variables with respect to the participants' level of education, the results for which are shown in Table 5.18. The analysis does not support Hypothesis 5 and therefore the *null hypothesis (H5 null)* is

partially accepted. There is a significant difference between the levels of education in regard to siege $F(6,493) = 3.52; p = 0.03$ (see Table 5.18).

Table 5. 18: One-Way ANOVA analysis on the psychological variables with respect to the level of education

Measurement scales	Psychological Variables	Source of variation	Sum of squares	Df	Mean square	F	Sign.
PTSD Checklist Questionnaire	The effect of siege	Between Groups	169.3	6	28.22	3.52	0.03
		Within Groups	8069.3	493	16.37		
		Total	8238.6	499			
	PTSD	Between Groups	1023.9	6	170.64	.54	0.58
		Within Groups	56526.9	493	114.66		
		Total	57550.8	499			
	Re-experience symptoms	Between Groups	97.2	6	16.20	0.31	0.73
		Within Groups	8276.1	493	16.79		
		Total	8373.3	499			
	Avoidance Symptoms	Between Groups	216.3	6	36.05	1.7	0.18
		Within Groups	11853.2	493	24.04		
		Total	12069.5	499			
Arousal Symptoms	Between Groups	183.1	6	30.52	1.1	0.33	
	Within Groups	8563.9	493	17.37			
	Total	8747.0	499				
BDI-II General Health Questionnaire - 28	Depression	Between Groups	831.8	6	138.63	0.87	0.42
		Within Groups	63097.6	493	127.99		
		Total	63929.4	499			
	Somatic symptoms	Between Groups	28.3	6	4.71	1.2	0.31
		Within Groups	2075.8	493	4.21		
		Total	2104.0	499			
	Anxiety	Between Groups	31.3	6	5.22	0.30	0.74
		Within Groups	2291.3	493	4.65		
		Total	2322.7	499			
	Social dysfunction	Between Groups	24.5	6	4.08	0.29	0.75
		Within Groups					

	Within Groups	1403.9	493	2.85		
	Total	1428.4	499			
General health	Between Groups	400.5	6	66.74	2.03	0.13
	Within Groups	18697.2	493	37.93		
	Total	19097.7	499			
p>0.05	p<0.05*	p<0.01**				

The rest of the results showed a lack of statistically significant differences between the level of education and psychological variables, i.e. siege related traumatic experiences, depression, PTSD, and general mental health. This implies that across the sample, participants from all educational backgrounds suffer equally from the aforementioned psychological variables. In sum, the level of education does not alleviate or magnify the level of suffering.

Psychological variables by marital status

To study the differences in psychological variables between males and females, independent-sample *t*-tests were carried out and are reported in Table 5.19.

Table 5. 19: *t*-test results on the psychological variables with respect to marital status

Variables	n=287 Married		n=213 Unmarried/single		<i>t</i>	<i>p</i> -value
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Siege impact	10.6	3.9	8.6	3.9	-5.51	.001
PTSD	21.8	11.2	20.6	9.5	-1.30	0.20
Re-experience symptoms	8.3	4.3	7.3	3.6	-2.90	.001
Avoidance	6.8	5.1	6.2	4.4	-1.30	0.19
Hyperarousal	6.6	4.2	7.0	4.1	1.03	0.30
Depression	17.8	10.5	18.9	11.5	1.07	0.28
Somatic symptoms	2.1	2.2	1.5	1.7	-3.15	.001
Anxiety	2.6	2.2	2.3	2.0	-1.74	0.08
Social dysfunction	1.4	1.7	1.5	1.7	1.13	0.26
General Health	7.8	6.3	7.3	5.7	-0.75	0.45
p>0.05	p<0.05*		p<0.01**			

The independent-sample *t*-test analysis of marital status partially supports Hypothesis 6 at the 95% confidence interval. That is, the results reveal that marital status has an effect only on siege, re-experiencing symptoms in PTSD, and somatic symptoms in general health morbidity.

5.9 Discussion

In this study, Palestinian adults who met the *DSM-IV* criteria for PTSD, frequently experienced comorbid depression, psychological problems and poor general health. Several studies have suggested that a few adults, who are diagnosed with severe PTSD symptoms, may be at risk of developing other psychological problems (Foa et al., 2008). The purpose of the study was to determine the prevalence and predictor factors comorbid with PTSD, depression and general psychiatric morbidity among the Palestinian adult population living in Gaza. There were 500 male and female participants who completed four questionnaires, including: the Gaza siege Checklist, the Gaza PTSD Checklist (PTSDC) for adults, the BDI-II Arabic version for depression and lastly, the general health GHQ-28. A multiple linear regression was used to predict trauma, PTSD symptoms, depression symptoms and general psychiatric morbidity in three groups: young adults, adults and older adults, with PTSD symptoms or no symptoms, based on their age and gender.

The findings have suggested that participants living in war situations for a long duration have strong potentiality to develop higher rates of PTSD symptoms, in general, usually comorbid with depression and poor health, in comparison to those who live in areas less affected by war. These findings suggest that being directly exposed to traumatic life-threatening events, witnessing death or

being involved in serious injury, are stressful events which are enough to trigger PTSD.

Theoretical impacts

This study has involved investigating the prevalence rates of PTSD, depression and general psychiatric morbidity among Palestinian adults in the Gaza strip. The results need to be considered with regards to literature and methodological issues in relation to exposure to war and siege trauma. The findings have shown that the war and blockade has created a stressful situation and has serious consequences for mental health, including PTSD comorbid with other mental and physical health outcomes (Kashdan, Morina & Priebe, 2009). It is important to note that for this study the focus was only on establishing the prevalence of PTSD symptomatology and the comorbidity of depression and general mental health among the Palestinian adult population, i.e. they were examined rather than diagnosed.

The findings of the current study showed that most of the Palestinian adult participants, who were exposed to complex trauma averaged at least 9.7 traumatic events after three wars. Additionally, exposure to traumatic events related to the current siege averaged 11 traumatic events after eight years of blockade. In comparison, Bosnian demographic studies reported that participants after three years of Sarajevo siege were exposed to an average of 24 traumatic events (Powell et al., 2003).

The current study found that 42.1% of the participants had experienced several traumatic events related to the blockade, affected the adult and older adult groups more than young adults, a finding consistent with Benjet, et al. (2016) and Nuttman-Shwartz et al. (2015). Several studies have revealed that there is, indeed, war related comorbidity between PTSD and depression in affected

populations based on: the nature of exposure to trauma, duration, intensity and the severity of the traumatic event, ranging from 1% in the general population to 80% (Ducrocq et al., 2001). In addition, the present study findings revealed that those adults are at high risk of developing psychological problems due to frequent exposure to war and the current prolonged effect of siege. All the aforementioned findings are supported by Abu Hien et al. (2008), Punamaki et al. (2005) and Thabet, & Vostanis (2015; 2009). The most common traumatic events were found to be associated with the blockade. For example, stressors such as the rapid increase in prices scored the highest, at 87.4%, for the siege-item questionnaire. This was found also to increase the feeling of being in a “big prison” (82.4%). These findings were comparable with those of Joma’a et al. (2015) and Thabet et al. (2009, 2008)

This present study findings showed no notable difference between the genders in response to traumatic events as a consequence of the blockade on Gaza. This indicates that both males and females have responded similarly to the siege trauma (Ai, Peterson & Ubelhor 2002; Ekbal et al., 2002; Eytan et al., 2004). Furthermore, for the current study it was found that females scored higher than males in terms of psychological problems, due to female vulnerability to mental illness during blockade, but overall, 50.2% of the adult population has suffered as a result of the traumatic experiences due to the current blockade. This finding is supported by several studies (e.g. Cardozo et al., 2004; Eytan et al., 2004; Kessler & McLeod, 1984; Powell et al., 2003). Significant statistical differences were found between married and unmarried participants, whereby the former were more affected by the siege compared to the latter. As reported in Table 5.19, by way of comparison, the findings of studies on the three years Sarajevo siege are consistent

with those of the current study as well as with other those for other countries exposed to a similar situation (e.g. Diaz, Murthy & Lakshminarayana, 2006; Williams, Carr & Blampied, 2007). Their findings indicated that continuous exposure to siege lead to PTSD comorbid with other psychological disorders. Regarding the present study, it was showed that adults living in Gaza city suffered more than those who live in other areas of the Gaza Strip. The findings are supported by those of Abu Hien (2009), Joma'a et al. (2015) and Thabet, et al. (2009, 2008), who found that the Gaza siege and accumulative trauma experience had led to an increase in the rate of psychological problems, and the aggressive behaviour among parents towards their children (Abu Hien, 2009; Thabe et al., 2009, 2008).

The findings indicate that the siege-effect is a strong predictor for assessing the negative impacts on mental health, including other psychological problems. After three wars in duration of five years and ten years of armed blockade on Gaza, high prevalence rates of PTSD were demonstrated in this study. Theoretically, the findings supported the hypothesis that exposure to accumulative direct traumatic event(s) leads to negative appraisals that give rise to a sense of current threat or mental defeat associated with persistent PTSD symptomology (Ehlers & Clark, 2000, see also Halligan, Michael, Clark & Ehlers, 2003).

Post-traumatic stress disorder

The prevalence rate of PTSD among Palestinian participants in Gaza was 90%, with 36.7% reported symptoms of a moderate level or higher. The PTSD prevalence rate found in this study was in line with most other war and post conflict country research reports. For example, in Bosnian adults, Powell et al. (2003) found the prevalence of PTSD was 38.6% (e.g. Cardozo et al., 2004; Marshall

et al., 2005). The results also showed that there were significant differences in PTSD according to gender, whereby females generally reported higher rates than males. This is consistent with other scholars' findings (Ai et al., 2002; Ullman & Filipas, 2005), who found that female participants were more likely than male participants to meet the criteria for PTSD following exposure to war. The high PTSD scores among female adults and older adults are mostly due to the nature of trauma, the direct and or indirect exposure to trauma and severity of the exposure (Kimerling, Ouimette & Wolfe, 2002). Additionally, females are more emotionally involved than males in their day-to-day family lives and hence, are more likely to respond to negative events in a more heartfelt way. Furthermore, the differences in trauma type and severity between females and males may lead to either an increase or decrease the vulnerability to developing PTSD (Kimerling et al., 2002, see also Finkelhor, Hotaling, Lewis & Smith, 1990).

The potential interpretations of these findings can be that a misinterpretation of traumatic events intensifies the impact of major stressors and thus, leads to the results being exaggerated. Similar to other conflict regions, the results have shown that there were significant differences in PTSD according to age group. The novel finding of the present research was that were differences between young adults, adults and older adults, $F(6,980) = 3.75$; $p = 0.001$), which could singularly be attributed to the scores for the re-experiencing subscale $F(2,492) = 4.55$; $p = 0.01$). That is, this was due to adults and older adults scoring significantly higher than young adults on the re-experiencing subscale of the PTSD measure, rather than on the avoidance or hyperarousal subscales. Adults and older adults were not significantly different from one another on the re-experience subscale. The results showed that older adults (50 years

old and above) were more likely to develop PTSD symptoms than young adults (18 - 25 years old).

The findings have shown that education and marital status in the Gaza strip did not have a significant effect on the prevalence of PTSD, but there was a significant difference between the levels of education in regards to siege $F(6,493) = 3.52, p = 0.03$ as can be seen in Table 5.18. For marital status, independent-sample *t*-tests were carried out and are reported in Table 5.19. The results reveal that marital status has an effect only on siege, re-experiencing symptoms in PTSD and somatic symptoms in GHQ-28.

Another novel finding was that the area of residency did impact on PTSD prevalence. The results showed statistically significant differences between the residence locations and hyperarousal symptoms after exposure to the traumatic events $F(3,496) = 4.17, p = 0.01$ (see Table 5.17). Participants who lived in Gaza city scored significantly higher on the PTSD subscale for hyperarousal compared to those living in the middle Gaza region. Variability in prevalence rates of PTSD in this study may be attributed to the geographic location of Gaza city, intensity of exposure and duration. Gaza city is the most targeted place during any war aggression for several reasons, including: the presence of governmental buildings and homes of senior political leaders, the short distance to the Israeli border (2 km) and due to the high population density compared to other areas. Consequently, Palestinians living in Gaza city are continuously exposed to war related trauma, which significantly contributes to worse psychological problems and physical illness.

General psychiatric comorbidities

Several studies have indicated that individuals suffering from chronic PTSD can re-experience additional psychological, emotional

and physical problems related to an initiating traumatic event (Schacter, Norman & Koutstaal, 1997). In this study, the prevalence rate of general psychiatric comorbidities among Palestinian participants in Gaza was found to be 67.1%. Additionally, the results showed no statistical significance differences between age and gender. This indicates that males and females have an equal degree of suffering from a general health perspective. Various studies have showed that the prevalence rates of PTSD are co-morbid with high rates of depression. This finding is supported by most of the epidemiological studies, whereby they have provided evidence that PTSD often occurs with other mental disorders. Kessler (1995) found in the National Co-Morbidity Survey that about 84% of traumatised adults have suffered from other mental disorders during the course of PTSD, such as depression and anxiety. Gerrity, Corson and Dobscha, (2007) found that 86% of depressed people suffered from a history of long exposure to extreme traumatic events, severe PTSD symptoms and depression. The overlapping symptoms combined with PTSD and depression includes; diminished interest, sense of a foreshortened future, difficulty falling or staying asleep, and difficulty in concentrating (DSM-IV-TR, APA, 2000; Franklin & Zimmerman, 2001). Furthermore, irritability and anger symptoms can be seen in any anxiety disorder, which includes PTSD. These symptoms can also be seen in mood depressive disorders, including chronic major depression, especially in males (Cochran & Rabinowitz 2003; Magovcevic & Addis, 2008). Similarly, Kemp, Quintana, Felmingham, Matthews & Jelinek, (2012) found PTSD as being comorbid with depression, physical and mental health disorders in a large community sample. However, in this study, adults scored higher than young adults on the somatic subscale in the GHQ-28.

Depression comorbidities

The prevalence rate of depression among the participants was found to be 38.4%, 27.2% was mild depression and 11.2% was moderate to severe depression and females suffered more than twice as much as males. Most research supports this finding, that depression rates in women are twice as high relative to men (Kessler et al., 2005). A *t*-test revealed no significant differences in the total depression score between young adults and adults, $t(497) = 0.83$; $p = 0.41$. That is, both groups appear to have similar rates of suffering and no statistically significant differences were found between married and unmarried participants with respect to the total depression score, as can be seen in Table 5.14.

The implications of the study

The current study has beneficial implications in terms of predicting the factors that increase the risk of prevalence of PTSD, comorbid with depression and other psychiatric disorders, among the adult population in Gaza. Consequently, the outcomes of this research will inspire the researcher and others to conduct and tailor appropriate psychological treatment for the three adult groups. In particular, those who have been diagnosed with PTSD, depression and somatic symptoms require tailored services, rather than just providing all age groups in Gaza the same type treatment. This will result in improvement of their mental health, well-being and health integrity.

Limitations and strengths

It is important to address a number of limitations in relation to the current study. Owing to its cross-sectional nature, it is not possible to gain an understanding between PTSD and other psychological disorders over a long period of time, in comparison to when using a longitudinal study. Additionally, the DSM-IV TR (2000)

criteria for PTSD were used in this research, as the current version of DSM - 5 had not been translated into Arabic by the time of data collection, until nowadays (Shamia, Thabet, & Vostanis, 2015; Thabet, El Buhaisi, & Vostanis, 2014).

A further limitation is that, there are shortages of Palestinian literatures focusing on the adult population, in comparison to children and the adolescent population. Therefore, there have not been enough findings to provide sufficient data, to predict the prevalence of PTSD, comorbid with other psychiatric disorders among Palestinian adults in the Gaza Strip. Additionally, the current study has no comparison group, thus making it difficult to determine whether the rates of comorbidity among Palestinian adults were higher for PTSD than for any other psychological disorder.

The main strength of this study is the use of a large sample size, which may allow for the findings to be generalised amongst adults across all Arabic countries. A further strength is that, the prevalence of PTSD and comorbidity with depression and general mental health have been measured among adults for the first time in a community sample, in Gaza. That is, previous studies in Gaza did not produce data regarding PTSD, comorbid with depression and general health in adults' population (Punamaki et al., 2005; Thabat et al., 2008).

Additionally, this study's findings are consistent with and elaborate upon the findings of other surveys and studies conducted in communities with similar situations to Gaza that were based on the use of the theoretical cognitive model of PTSD by Ehlers and Clark (2000). Furthermore, the findings provide evidence to support the content validity and reliability of the four scales that were used in this study to predict the prevalence and comorbidity of PTSD with depression and other psychotic disorders among adults in Gaza.

Directions for Future Research

The findings suggest that further longitudinal research is needed to comprehend the effects of war and protracted blockade-related trauma, PTSD, depression and other comorbid mental illness in Gaza. Palestinian adults need appropriate psychotherapeutic and medical treatment, tailored towards their population's needs. The outcomes of the current study suggest that combining structural clinical interviews with measurement scales, such as self-reports in the form of psychophysiological measures can yield more valuable and valid results. This can provide different perspectives of understanding on the prevalence rate of PTSD in regions afflicted by war and conflict. Lastly, it is important for future studies to examine the predictor factors that are associated with comorbidity between PTSD, depression and other general health disorders among adults in Gaza.

For targeting the symptoms of PTSD, it could be beneficial to use Cognitive Behavioural Therapy (CBT), Cognitive Processing Therapy (CPT) (Resick & Schnicke, 1993) and EMDR therapy approach for PTSD (Shapiro, 1989). Additionally, in the treatment of depression, the use of the cognitive model by Beck et al. (1979), along with other psychosocial approaches, for example, educational psychological programmes and rapid response could prove to be effective. This can also be beneficial immediately after exposure to trauma in alleviating both PTSD and comorbid depression symptoms in adults (Monson et al., 2006).

5.10 Conclusion

The findings presented in this chapter have highlighted the most common comorbid psychiatric disorders amongst the adult population with PTSD, depression and comorbidity with general

health problems. Regardless of the participants' age, gender, marital status, place of residency or educational level in this, 90% showed symptoms of PTSD comorbid with other psychiatric disorders, such as depression and anxiety disorders. This was driven by the frequent exposure to war and protracted blockade, the type of trauma, exposure to trauma, life threatening situations as well as the duration, intensity and the severity of the traumatic event.

In the following Chapter, the results of the third study (study 3), which explores the traumatic experiences of adults living in the Gaza Strip qualitatively, is presented.

Chapter 6: **Exploring the Experiences of Adults Living in the Gaza Strip**

6.1 **Introduction**

Gaza is a developing low-income area of the Middle East. Historically, it has seen several wars and experienced prolonged military occupation. The paradox is that Gaza is experiencing both a relative conflict and also a relative peace, simultaneously, which makes it a unique zone of conflict. Accordingly, the tangible questions to be answered in this qualitative study are: are adults in Gaza experiencing war-trauma or PTSD? Are they acting or feeling as if their distressing traumatic events were recurring in the sense of reliving their traumatic experiences in various forms of dissociative flashback episodes related to war traumas in the present? Do traumatised individuals frequently associate an aspect of their psychological distress and physical reactions on exposure to internal and external reminders to specific trauma? For example, similarity of an event or action that has the potential to trigger PTSD symptoms (DSM- IV and 5, criterion B: symptoms B4 and B5). When this is the case, the individual relives the initial traumatic experience, *as if* it were occurring in the present. Thus, 'triggering of an aspect of the initiating traumatic event/s' from war-trauma and PTSD, does arise after exposure to the actual traumatic event.

For example, war planes or drones, sounds of an explosion, hearing from a third party that a relative has been killed or injured or hearing sad stories of war waged on other people, are cues for an individual to re-experience the originating trauma. Other traumatic experiences like seeing events on TV such as dead bodies, human remains, house demolition, bombing or witnessing tank attacks on the streets of Gaza can symbolise the initial traumatic event. These

experiences all hold a powerful potential to trigger or cue for an individual to re-experience a traumatic events even when he/she is not personally threatened. This shows that the adults of Gaza suffer both war-trauma and PTSD.

Several studies have focused on war-trauma, PTSD and other trauma-related disorders, to determine and verify the impacts of war on the mental health of people exposed to such war-traumatic events. The psychiatric and anthropological features examined are of paramount importance, because most of the clinical presentations of mental health issues examining degrees of impairment, differ across cultures, depending on individual and environmental demands in those cultures and in regard to war-trauma and PTSD (e.g., within the developed USA, and the developing country Palestinian-Gaza).The unique conditions of developing countries and their cultures do not readily absorb or accept Western diagnostic models (Bartholomew, 2016). Cultural belief and language limitations (as expression and as understood in translation) do represent barriers, though not insurmountable ones, if the Western model is flexible and adapted to that particular culture, such as in the case of Gaza.

The standard Western diagnostic mental health models have been primarily structured on returnees from combat zones to Western developed countries, or citizens experiencing acts of violence during peace. The argument to me made here with regards to the aforementioned models may not necessarily be a good fit for adults who have lived their entire lives in a developing country under prolonged war, conflict and or siege and therefore, must be considered as unique cases requiring an adapted diagnostic model better suited to developing countries (Kahle & Robbins, 2014).

There is clear distinction regarding the approach between these culturally dependent diagnostic mental health models (Kagawa-Singer & Kassim-Lakha, 2003). As indicated by De Jong et al. (2003) and Kessler et al. (1995), in war and conflict countries populations are more hesitant to accept Western mental health models (Bracken, Giller, & Summerfield, 1995) and less likely to speak to mental health experts, because they do not think of their symptoms as being pathological, for they consider it “normal to be traumatised by the horrors of war” (Scott, 1990, p. 308). The presumption of individual vulnerability is, thus, the basis for psychiatric diagnosis as well as treatment.

Accordingly, some Western psychiatrists have misinterpreted resilience to war affected populations and considered it as evidence of psychological dysfunctionality and as being pathological resistance to an actual traumatic experience (Kienzler, 2008; Pupavac, 2004, 2001; Almedom & Summerfield, 2004). However, psychiatrists and researchers have provided ethnographic examples that consider resilience as a valid coping mechanism or series of coping mechanisms central to the traumatic stress response to the multiple faces of war trauma. Thus, the above misinterpretations cannot be considered valid, because conceptualised provision for crucial understanding of local and cultural healing, individual belief systems and religious healing are not considered in the Western diagnostic model. Moreover, several of the psychiatric discourses on war-trauma and PTSD ignore the achievements in transcultural psychiatry (Kienzler, 2008; Pupavac, 2004, 2002, 2001).

6.2 Cultural considerations of war-trauma and PTSD

Psychiatrists and psychologists in Western countries have shown great interest in the psychological consequences of war-

trauma and trauma-related disorders (Kienzler, 2008; Miller & Rasmussen, 2010). The response to Vietnam War trauma was the first development and recognition of the concept of PTSD, which was introduced and classified in DSM-III 1980. Accordingly, PTSD has been recognised and widely used to evidence the reactions to trauma in different circumstances, for instance, with returnees from conflict zones and civilian survivors of wars (Bracken and colleagues, 1995; Johnson & Thompson, 2008; Kessler et al., 1995).

Much evidence has shown that the symptoms and course of a number of DSMs disorders are influenced by cultural and ethnic factors owing diverse cultural and ethnic contexts (DSM-IV, 2000). Hence, in war and conflict situations, the cultural context should be considered so as to provide better understanding of war-trauma and PTSD as well as other mental disorders (DSM-IV, 2000; Jacobi et al., 2004). Recent studies (Engelbrecht & Jobson, 2014; Jobson & O'Kearney, 2006) have linked mental disorders with sociocultural differences, such as mental defeat, isolation, permanent change (Ehlers & Clarks, 2000; Engelbrecht, 2013; Ji, Peng & Nisbett, 2000). War trauma stressors are stressful life events, which increase reactive, emotional distress, PTSD, depression and general psychiatric morbidity, as adaptive, yet ultimately negative responses to excessive fear during war and the ongoing distress caused by it (Engelbrecht et al., 2014; Jobson et al., 2006). Subsequently, consideration should be given in the context of cultural differences that can occur during the diagnosis (DSM-IV 2000) as different cultures react differently in the face of trauma.

6.3 Anthropological contributions to discourses on war-trauma and PTSD

Anthropologists became involved in the debates on war-trauma and PTSD by providing thorough conceptualisations and interpretation strategies in culturally diverse contexts (de Jong, 2004; Pandolfi, 2003). The contribution of social anthropologists on war-trauma and PTSD introduced the concept of “social suffering” related to war-trauma and PTSD (Kleinman, 2000, p. 2; Kienzler, 2008; Farmer, 1996). Social suffering includes health and well-being as well as legitimate, ethical and religious concerns, among other things (Kleinman, Das, & Lock, 1997). Socio-demographic factors, e.g. age, gender, ethnicity, religion and economic factors have clear influences in relation to social suffering (Kleinman, 1995, 1987; Good & Brodwin, 1994). According to Pedersen (2002) and Pedersen and Bauffati (1989), in stressful situations, social suffering in this context, has two interrelated dimensions incorporating the macro-social as an alternative to the PTSD model. Medical anthropologists’ proposals have led to more effective intervention strategies and understanding of vulnerability (Eisenbruch et al., 2004; Kleinman, 1987; Kirmayer, Lemelson, & Barad, 2007), not pathologising populations (Pupavac, 2002) and the medicalisation of trauma survivors (Kleinman & Kleinman, 1996).

Justification for the qualitative study

A semi-structured interview questionnaire was designed by the principle researcher to enable the exploration of variables as an integral to this research among Palestinian adults living in the Gaza Strip. It comprised 14 main questions, with each being followed by a maximum of four sub-questions. All of the items reflected the criteria of DSM-IV TR (2000) for trauma, PTSD, depression and anxiety symptoms. Study 3 was conducted between May and June 2013.

The questionnaire asked about day-to-day living in the Gaza Strip to find out about the most important traumatic events that are related to stress in Gaza. It also aimed to understand the psychological impacts of exposure to traumatic experiences on Palestinian adults and their coping strategies for improving their day-to-day lives in Gaza.

Aim

The general aim of Study 3 was to explore and provide a more 'in-depth' understanding of the traumatic experiences of adults living in the Gaza Strip. A particular focus was to be on those who had been exposed to traumatic experiences and who had not shown any level of psychological issues, such as stress, depression or anxiety. In addition, this study was also aimed at understanding these individuals' coping strategies and their abilities for resilience.

Research question

The main qualitative research question, which concerns the effects of exposure to traumatic experiences, was: "What are the type and severity of traumatic experiences of adult participants living in the Gaza Strip?" To answer this question, the thematic analysis approach by Braun and Clarke (2006) was used.

Ethical approval

Prior to the initiation of this qualitative study, ethical approval by the Brunel University Ethics Research Committee, School of Social Sciences was given, followed by written consent to being interviewed from each of the participants, after they had been debriefed on the aims and outcomes of the research.

6.4 Methods

Participants

The snowball sample consisted of 17 Palestinian participants living in the Gaza Strip. Their ages ranged from 18 to 65 years ($M = 42$ years, $SD = 2.65$). The mean ages for genders were: 12 males ($M = 43$ years, $SD = 4.96$) and five of the participants were female ($M = 38$ years, $SD = 6.63$). Distributions of age were as follows: 18 – 25 years, 5.9%; 26 - 35 years, 23.5%; 36 - 45 years, 35.3%; and 46 - 55 years, 23.5%. All the participants were married and their education levels were as follows: one a university lecturer, four held bachelor degrees; two were teachers, one was unemployed and one a social worker. Three held secondary school level certificates, one was a shop owner and two were private business owners. Three hold college degrees, one was working for the Gaza city council, one was unemployed and one was working with the government. Finally, one had completed primary level schooling and was unemployed. Five of the females were housewives and their educational levels were: one held Bachelor degree; three to secondary level, and one to primary level (as illustrated in Appendix B).

Interview schedule

The semi-structured interview was developed for exploring the experiences of adults living in the Gaza Strip. It was created by the principle investigator of this research so as to help answer the general question of how adults have been affected by war and stressful situations in the Gaza Strip. Also, what sort of coping strategies were the participants using to cope and what level of resilience demonstrated were to be probed. Additionally, the schedule was designed to explore and reveal in-depth, insights into other related questions in the Palestinian context.

Four different areas of Gaza were identified for conducting the interviews in order to build a comprehensive picture of the traumatic experiences affecting adults. The schedule strategies involved the

full criteria of PTSD, depression and general psychiatric morbidity, the risk factors of PTSD, coping with the disorder, the types of psychological treatment, if any and personal appraisal or subjective evaluation of her/his own traumatic experience. The participants were asked to also complete the socio-demographic section. The 17 interviews were tape recorded and the semi- structured interview questionnaire is included in Appendix B.

6.5 Results

Table 6. 3: Main themes and sub-themes: the qualitative study (Study 3) results: categories

Main theme	Sub-theme
1. Siege related stressful living conditions in Gaza	<p>1. The lack of essential resources and distressed economic situation related to war and siege: included: stressful conditions, a deteriorated quality of life, unemployment; low wages, frustration, suffering, increase prices, fuel plus electricity, shortage of food, medicines, injury, unsafe, ongoing fear, generalized anxiety, frequent negative feelings, thoughts, witnessing and experiencing traumatic events in their life time, feeling helplessness with no hope or future to live in Gaza.</p> <p>2. Social functioning: low household income, cut social function, and impaired social visits, anxiety, worried, uncertainty for their future, and desire to leave Gaza</p>
2. war related traumatic experiences related stressful living conditions in Gaza	<p>1. Emotional responses: Intrusive distressing images, thoughts or perception, distressing dreams, reliving trauma, intense psychological distress, long-term emotional and mental distress can cause serious somatoform problems</p>
3. Psychological negative effects of war related trauma	<p>1: Depression and negative self-esteem For example, , depression, negative self-esteem and self-perception and self-appraisal, anger, sadness, irritability, being nervous, anxiety, frustration, low self-esteem, guilt, and depression and somatoform problems.</p> <p>2. Anxiety: worried about the unpredictability, aggressive behavior toward others, guilt, uncertainty of the future, fear of death.</p> <p>3. Stress: upset, intolerable, restless, or anger,</p> <p>4. Mental and physical health problems related to war</p>

	trauma includes: psychological disorders of emotional intolerance, anxiety, and distress, somatoform problems, constant headaches, insomnia, fatigue, blood pressure, diabetes, and epileptic.
4. re-experiencing original traumatic event through symbolism and or resemblance of original event(s)	<p>Symbols of traumatic events: included, a war plan drone, sound, hearing, watching sad story on TV, a sense of reliving the traumatic event again.</p> <p>1: avoidance and numbing experiences Included: avoid people, conversation, places, thoughts, and feelings, loss of interest and/or loss of hope.</p> <p>2: Sleeping difficulty or difficulty falling or staying asleep: intense memories, flashbacks, nightmares, negative feelings, intense affecting all aspects of life. irritability, persistent symptoms increased arousal, lack of concentration, hypervigilance and startled</p>
5. Main Theme: Coping Strategy	<p>1. Religious beliefs: a sense of fate or fatalism: prayer, patience and resilience: Prayer, reading Qur'an and patience,</p> <p>2. personality traits the sense of future</p> <p>3: Adaptation: coping, adapting or accepting to the situation as it is, and keeping busy</p> <p>3. being patriotic: the ideological beliefs, the society believing of martyrdom.</p> <p>4. psychosocial support and,</p> <p>5. Social support.</p>

1. Main theme: Siege related stressful living conditions in Gaza

The first main theme is composed of two subs-themes: the first is the lack of essential resources and the distressed economic situation, whilst second pertains to the social functioning. Most of the participants described how they had been exposed to a variety of traumatic events and re-experiencing traumatic symptoms related war and blockade, as recounted below.

In the Gaza strip, the existence of dire living conditions is an historical and ongoing narrative described by all the adult participants in this study. Most of them had been exposed to more than one traumatic event and most described the living conditions in Gaza as stressful. They reported on living in a very restrictive,

tightened military and economic blockade. This has meant increased negative economic conditions in Gaza affecting all aspects of the social system. Consequently, frustration has increased arising from the concomitants of unemployment, increased distress and anxiety. A deteriorating quality of life affecting the entire population in Gaza has been the resultant and emergent picture. The economic situation in the Gaza Strip is distressful, leaving individuals and communities with little or no hope for the future. Several examples from the interviews are provided below:

The current living situation in Gaza is very difficult. The blockade, imposed on Gaza for more than 8 [now 10] years, means the people are suffering greatly. Secondly, the high rate of unemployment is problematic. There have been no new jobs created since the siege on Gaza began, so people in Gaza are suffering from the lack of a quality of life where once they were used accustomed to a relatively good life (M, age 56, Page 2, Parag. 1– line: 1 - 3).

1.1: Lack of essential resources and distressed economic situation

The first sub-theme was that the lack of basic and essential needs in Gaza has been a constant factor in participants being stressed, anxious, frustrated and/or tense:

The Living conditions and the economic situation, in which we live, makes me feel distressed and tense... and makes me feel that I don't want to live in the Gaza Strip... The living conditions are very difficult...with continuous fear: ... delayed life ... making us feel that our lives are in danger all the time, this also..., increases the anxiety amongst people in Gaza (M. age 61, parag.7, Page 5, line: 20-25).

The difficult economic situation in the Gaza Strip has resulted from the long-standing armed blockade on Gaza. Because of this

and an almost entire reliance on international aid, social, family, and community-based activities have severely curtailed. Also, the lack of resources and the high cost of meager food staples, hospital medicines and fuel plus electricity, allied to increased unemployment rates and low wages has increased the levels of insecurity and the concomitants of fear and generalised anxiety in the Gaza Strip.

Because of the blockade we have high commodity prices, a severe lack of resources, plus low salaried jobs. This means we spend most of our time searching for the essential necessities for life. The extreme poverty caused by the blockade, means we live in fear that our collective future will be one that is never free of daily want and basic human freedoms (M. age 30, Parag.2, P.6, line: 9-13).

Because of the lack of safety, people feel insecure, expecting at any time Israel might attack Gaza, the siege on Gaza, the lack of food, medicine. Also there are no jobs, and the loss of income and material to rebuild the houses that have been destroyed by Israel's latest attack on Gaza, and so on has lead to increasing anxiety (M. age 32, Parag. 7, P. 5, line: 30- 33).

The rate of unemployment is very high and getting higher as the consequences of siege. For example, the hospitals have no medicine, water, or diesel to generate electricity. We live here in Gaza with 2-4 hours of electricity. Also, Israel prevents all basic and necessary goods from entering Gaza (M. age 54, Parag. 5. P.4, line: 15 - 18).

1.2: Social functioning

The second sub-theme social function was generally described as part of a daily life that had been dramatically impaired due to war-trauma and prolonged blockade. Participants noted greater social interaction and participation before the siege. They explained how their social visits to relative or friends have diminished. Only on special occasions, would they do go out to

participate. One participant explained how it was problematic to have been once socially active, with visits to and from families and friends before the siege. Whilst post siege, unemployment and a low household income, had drastically curtailed the social function and impaired social visits.

I was unable to provide things for my family as normal and I was unable to do my day-to-day activities as normal...This situation has lasted for a long time. Then even after I was restored to health..., when I returned home without finding work, I was really exhausted, depressed and stressed (M. age 59, P 4, line: 26).

Generally, participants with stress and anxiety described a negative impact on their social functioning. Most of the participants felt anxious and worried about the uncertainty for their future, and described how when dispirited, they had the desire to leave Gaza in order to work so as to improve their family household income back home. However, they could not do so because of the armed blockade as quoted below.

These sorts of situations make me think of travelling abroad to another country, just to improve my family life financially, then come back to Gaza when I am better off...people in Gaza are dealing with the situation as if it were normal. Many people in Gaza believe this is a normal way of life but, unfortunately, this is not normal life (M, age 30, Parag. 4, line: 22-24).

2: Main theme: War related traumatic experiences

The second main theme was war related traumatic experiences, accompanied the emerging sub-theme of the negative psychological, emotional and physical responses. All the participants described that they experienced traumatic events associated with war, the blockade and the ensuing difficulties. It can be predicted then, that the mental health of adults living in the targeted areas of Gaza have been negatively affected. Participants described how

frequent exposure to war, and living under the long-term blockade was related to their trauma. This involved multiple factors, such as, serious threat of death or injury, to which individuals responded with fear, tension, mood swings, anxiety, frustration and helplessness. War related traumatic experiences can affect the entire society; leading to intense suffering, distress and layers of emotional symptoms. Several examples from the interviews are presented below.

The daily threat of attacks on Gaza by the Israelis, and most days you hear that someone has been killed by an Israeli drone or warplane. There are more examples I could give (F. age 43, P. 2, Parag. 1. Line. 1- 4).

The life in Gaza is distressing; we live a sad and stressful life, as a result of the continuous threat by the Israeli army of bombarding Gaza. This terrifying life we live has affected the entire life in the Gaza strip; men, women and children are suffering. This has affected negatively our quality of life (M. age 61, Parag. 1, 2, Page 2, line: 1 - 4).

Despite the length of time that had passed since the actual exposure to war traumatic experiences, the participants generally expressed present experiences of profound emotional and psychological effects, in the form of intrusive negative thoughts, feelings, flashbacks and helplessness due to the past traumatic event(s). They still reported high levels of anxiety and frustration. Such experiencing of these symptoms are understandable given the conditions facing the people of Gaza on a daily basis.

I have repetitive negative thoughts and horrific images which are related to the past war experiences... There were two incidents where I felt completely helpless; it really affected me very badly. I felt that this was the moment of utter helplessness. Even now I re-experience a mixture of feelings; you can't describe it at that

moment. It is a feeling of complete helplessness (M. age 54, Parag 4. P. 5, line: 11-14).

One particular participant, describing her mental state, also mentioned - besides the feelings of anxiety and helplessness - an anguished state which was expressed in the form of aggressive, violent and confrontational behaviours.

I am always in a state of jumpy. I am easily alarmed, tense, anguished with painful feelings, very nervous, and aggressive. I feel violent and confrontational. I am always expecting the worst to happen, I feel totally helpless (F. age 43, Parag. 6, 7, 8, Page 2, 3, line: 22, 28).

Others described being terrified and experiencing extreme fear of losing a member of the family. These negative feelings can lead to a state of mental defeat, due to the individual's negative appraisal through the cognitive processing (Ehlers & Clark, 2000). This in turn may lead to constant and extreme feelings of distress, fear, tension, anxiety, confusion, helplessness, isolation and guilt or a state of emotional detachment, often described as an emotional numbness.

I dream of my three children, and my parents giving me food after their deaths. This makes me feel extremely distressed, sad, anxious, and tense all the time. I always feel I am in danger, and fear losing any one of them. If my 16 year old son is late getting home by 15 minutes, I feel extremely anxious. I become very agitated, nervous and restless. I go out of the house, and wait for him to come down the street (F. age 37, parag.5. P. 5, line: 13-18)

Most of the participants described their lack of understanding of their mental state and as described below, felt a deep confusion.

After the loss of second brother, I felt very distressed most of the time, I was restless, angry and withdrew from people ... I felt more

fear and tension than at any time before. ... I really got confused and I couldn't understand my feelings. My mind and my emotions were in confusion... I am really confused. I feel that my emotions have become numbed (M. age 30, Parag. 3, 4. P. 5, line: 8 - 19).

2.1: Negative psychological, emotional and physical responses

The emerging sub-theme of negative psychological, emotional and physical responses of war related trauma was, how mental and physical health problems are related, with participants describing how distressing and war traumatic events affected both. Clearly, most of the participants were aware that the deterioration of their psychological and physical health was war related. In effect, the participants recognised that the outcome of the frequent exposure to war experiences produced a variety of psychosomatic symptoms (Henry, 2006), in that the emotional distress had developed a state of physical illnesses. The common reported symptoms were: psychological disorders of emotional intolerance, anxiety, and distress, commonly led to somatic complaints, where people experienced constant headaches, insomnia, difficulty falling or staying asleep, fatigue, high blood pressure, diabetes and epileptic bouts. Several examples from the interviews are presented below

I have a continuous and severe headache... I am taking a course of treatment prescribed by my doctor, for the headache, diabetes and blood pressure (F. age 43, Parag. 4, p. 6 line: 15- 16).

Frequent and direct exposure to war and experiences, has affected my mental health and physical health badly; I am emotionally very worried and I am suffering from severe and constant headaches (M. age, 49, Parag. 6, P.4, line: 19).

Three months after my husband was killed, I have a very severe and constant headache, which never stops, and high blood pressure. I get a headache as soon as I leave the house (F. age 40, Parag. 3 P. 6, line: 9-10).

I have severe headaches I feel emotionally distressed; feeling tired, feeling exhausted, anxious and depressed (M. age 55, Parag, 3. P.6, line: 11).

Because of my headaches I can't swim as used to before the exposure to war experiences (M. age 26, Parag. 4, p. 9, lines 8).

During the war, I received brain injury, which left me with shrapnel in the head, this has caused epileptic bouts, headaches, psychological and physical illnesses (M. age 24, Parag. 4. Page 7, line: 19).

Yes, I have a permanent and continuous headache resulting from the constant painful experiences. When I remember these events all at once, I get a headache, and I feel like crying and find it very difficult to get sleep. It has affected my marital life (F. age 43, Parag. 2, Page 6, line: 2-3).

That is, negative psychological, emotional and physical responses can have an adverse effect on an individual's mental and physical health. For example, individuals exposed to war-trauma and protracted siege, expressed that such conditions negatively impacted on their psychological and physical health. The uncertainty of the situation is causal of anxiety and stress concerning the future. Participants described being in a bad mood, or being irritated, anxious or frustrated, and feeling fatigue by having to avoid the intrusive memories related to war and siege trauma.

I feel very nervous and anxious and tense all the time. I always feel physically tired and exhausted. Psychologically distressed and anxious, and if I laugh, I feel guilty (F. age 43, Parag. 1. P. 5. Line: 3-5).

3. Main Theme: Psychological negative effects of war related trauma

The third main theme was the psychological negative effects of war related trauma, along with the emerging sub-themes that included: depression and negative self-esteem, anxiety and stress related to trauma, arising as the reaction to war and siege. The constant exposure to war and siege, or expected or unexpected attack, witnessing a traumatic event-directly or indirectly-or life threatening or serious injury, could lead to trauma. Participants described the shock experienced during the course of, and after witnessing traumatic events. They expressed a range of emotions, with anxiety being preeminent. Also, uncertainty and insecurity arising from unspecific threatening situations were reported by many of the participants. Many experienced having witnessed a traumatic event, but being unable to help directly. Because of this, they felt helpless, very tense, angry, a sense of seeking revenge, guilt, humiliation and grief. These distressful symptoms can lead to individuals developing severe psychological problems, such as PTSD, depression and general psychiatric morbidity. The interviewees below all witnessed a traumatic event or ongoing suffering.

I felt helpless and useless, because I was unable to help or take care of my brother. At that time, I wished to be dead, or wished that I had been killed before, rather than see my brother suffering from his disease. So I had a very intense feeling of guilt (M. age 26, Parag. 2. P.4 line: 5-7).

The thing that has affected me most, and made me feel anger, anguish and pain, was when I saw with my own eyes, the Israeli army attacking our house and beating our women and humiliating them. I was beside myself with grief and rage, and I feel I want to take revenge for that humiliation, at some point in the future (M. age 49, Parag. 2, p. 5, line: 14- 19).

I witnessed a devastating event where. Five youths had been killed. An Israeli drone had targeted a group of activist youth. After the main target had been eliminated, a few minutes later, people went to help the victims. Then, unexpectedly, they were bombarded again by the same plane. Sadly, they were all killed. Their bodies became pieces, scattered everywhere. This event was also very shocking for me (M. age 59, Parag. 3. P. 3, line: 9-13).

The participants had experienced distressful traumatic events leaving them shocked and confused due to a sudden attack where they lost loved ones. They felt emotional numbing and distressed, as quoted.

My second brother was bombarded by Israeli tanks, and was struck on the head. People started rushing towards the place, while I was walking in the street. Then I heard people saying "There's a martyr." Then I rushed with them to rescue the injured. I wasn't aware that he was my brother. Then, when we arrived, I looked at the martyr, and I was suddenly shocked. It was my brother. I was totally shocked, completely helpless and extremely anxious, beside myself with grief, anger and rage. I completely lost control of myself (M. age 30, Parag. 3, 4. P. 5, line: 8 - 19).

Participants gave vivid mood descriptions. Many felt helplessness and frustrated by not being able to function normally in the family or workplace environments and by not being able to carry on with a normal life. Also, individuals described their experiences after war and the related psychological and somatoform symptoms that arose. The consequences were mostly a negative perception of both the present and perceived future, regarding which, emotionally, they felt distressed, numbness, lack of concentration, which was affecting work efficiency and leading to a lack of understanding as to their mental condition. Also, many were constantly worried in relation to the ongoing situation in Gaza. Several examples from the interviews are presented below.

Despite the distressing situation and feeling frustration and worried... I was trying to alleviate the situation....then sadly, our third baby boy also died... I felt life had become meaningless I ... tried to distance myself from the relationships I had with my children, for fear of losing one of them or losing all of them together at once. I don't know, but I couldn't feel love for my children... Maybe because of my fears related to the war events I was exposed to (M. age 28, Page 14, line: 6 - 16).

I'm always in an extremely nervous state of mind. So, I feel anxious, tense, and mentally I am disturbed. This has affected my life and my social relationships with others; it has affected my stability at work, because of the lack of concentration. So, I feel extremely anxious and tense all the time (M. age 24, Parag. 2. P.2, line: 3-6).

Other symptoms involved flashbacks; intrusive thoughts interrupted sleep, which fed into the day. The memories of past trauma invaded dreams, causing feelings of terror described by participants as nightmares. The participants experienced the symptoms as re-experiencing, avoidance, hyperarousal and other related symptoms of trauma and PTSD.

Most of the time, when my past horrific experiences are triggered...I relive the dreadful experiences ... as attacked flashbacks. Thoughts and the feelings of my injury attack me badly, as I recall the shocking events, then I start to feel as if I am reliving these events again. In addition this causes more disturbances to me all day long. My Interrupted sleep is full of awful feelings and thoughts disturbing my wife, and the whole family in the middle of the night. Also if someone relates such stories, then definitely I re-experience a past event in the form of a terrifying nightmare at night. Through the nightmare, I feel I am re-experiencing a very dreadful event (M. age 24, Parag. 5, p. 5, line: 20 - 28).

3.1: Depression and negative self-esteem

Two side effects of the war were shown to be depression and an associative negative self-esteem. Commonly, depression associated with a negative self-esteem was explained by the participant's negative self-perception and negative self-appraisal. Most of the participants, regardless of gender, described this depression status and concomitant negative self-esteem. Many expressed how depression would arise periodically, whilst others described feelings of sadness, isolation, social withdrawal, and loneliness, of being in a black hole and thoughts of suicide, or thoughts of committing harm to others. Some expressed feelings of negative self-esteem, worthlessness, incompetence, feeling useless and a hopelessness, which persisted for long periods of time. Examples from the interviews are presented below.

I suffered from depression. It lasted for 3 months each year. I isolated myself from others, complete isolation for 3-4 days each month, where I don't feel like talking to anyone, it comes without any direct reason. Physically, I feel difficulty in breathing (M. age 26, Parag. 1. P.4 line: 1-3).

I feel tense and as though I am in a black hole and I couldn't find my way out. I am in pain, still mourning, these feelings of sadness and depression will never fade (M. age 61, Parag. 4, P. 3, line: 13 - 16).

The following participants (from both gender) reported during their interviews, that the high level of exposure to negative emotional distress (war trauma) and the negative self-esteem factors, mediated their depressive symptoms and the negative self-esteem symptoms in regard to the external environment, as detailed below.

My thoughts and feelings are about leaving the house and never coming back again, and I have thought of committing suicide, because often, I feel I am the most worthless and useless person in the world. I have thought of harming my husband, killing my

children and finishing them all off (F. age 27, Parag, 6. P. 3, 4, line: 22 - 27).

I feel confused and I don't understand what is going on inside me. I feel I have become a worthless person. These feelings last for a long time (M. aged 28, Parag. 2, p. 9.line: 7).

Usually, I isolate myself in my room. I like to withdraw myself from people and even from my children. I feel severe depression, sadness, and I don't like to go out for about a week, don't like to talk to people, and I lost interest with things I used to love, before the terrifying event. I constantly expecting danger and I don't trust other people (F. aged 40, Parag. 1. P.3, line: 1- 4).

3.2: Anxiety

Anxiety and worry about the unpredictability and uncertainty of the future in Gaza, as well as fear of death by drones were other emotions participants referred to in relation to their life experiences. Anxiety can result from the individual's evaluation of poor self-worth, loss of self-esteem or a loss of trust in others. One participant said it was particularly difficult to feel positive in Gaza because of the distressful situation. Most of the participants reported how they were emotionally affected by living in distressful situations in the Gaza Strip, where they felt exposed, experiencing a constant and general fear, due to uncertain situations, in particular, the worsening economic hardship. The participants reported that they understood their lives in Gaza were difficult and there was always a present danger of unexpected attack. Several examples from the interviews are presented below.

The blockade makes me feel anxious, raises tension, and makes daily life difficult in Gaza. The insecurity and instability makes me feel very worried, and always feeling threatened. The economic situation and unemployment, makes me even more worried and distressed (M. age 24, Page 2, line: 4-9).

In Gaza we feel that our lives are in danger all the time, this also, increases the anxiety amongst people in Gaza (M. age 61, Parag. 8. P.5. Line: 20-21).

There are many things here which subject people to harmful psychological stresses and strains, such as the occupation and the continuous Israeli threat of attack on the Gaza Strip. The drones and frequent shootings are threatening us and frightening us constantly. We are living in a place under extraordinary circumstances where the high levels of fear and threat, are due to life-threatening situations. So obviously, this leads, to a stressful, anxious sort of life (F. age 27, Parag. 2 Page 1, line: 1).

Israel's escalation of military action means that there is a permanent fear and increased general anxiety, in the entire Gaza Strip. We know that this will happen, but we don't know when this will happen. What we do know based on experience is that Israel will demolish houses, farms and factories during the attacks and that many citizens will lose their livelihoods and lives (M. age, 59, Parag. 5, P. 3, line: 12).

Along with the constant fear of attack, and the protracted blockade, many participants had experienced the loss of family members during Israeli attacks, which had caused initial and extreme shock, leaving them with feelings of aggression, loss of control, numbness, speechlessness, confusion, frustration and resulting in social withdrawal. As recounted below:

I am always anxious because I lost two sons on different occasions; ...That made me very anxious and very aggressive at home. I couldn't control myself when I get angry (M. age 54, P. 2. Parag, 2, Line, 2 - 5).

Oh, yes, after I had lost four members of our family, including my beloved son. I felt shocked and numb. I became speechless I am still emotionally in shock (M. Aged 55. Parag, 7 P. 2, line: 15-18).

After the loss of my second brother, I felt very distressed and very anxious most of the time, I was restless, angry and withdrew from people ... I felt more fear and tension... I really got confused ... My mind and my emotions were in confusion... I feel that my emotions have become numbed (M. age 30, Parag. 3, 4. P. 5, line: 8 - 19).

3.3: Stress.

The third sub-theme of war related trauma that emerged was stress related symptoms. Anger is also a common emotional reaction to stress and it has social implications, especially for people who have been exposed to harmful frustrating situations or stressful events, such as aggressive behaviour or having demonstrated anger toward others, thus giving rise to feelings of guilt. Participants described how distressing and traumatic events affected their day-to-day activities. This, they found to be in the least, upsetting and at the extreme, intolerable. Furthermore, restlessness, anger, and worry were concomitants. As recounted below:

The unpleasant events are so distressing that I feel constantly anxious and angry to such an extent that I can't bear myself. Sometimes, I shout in anger, at my children. I then further isolate myself in my bedroom. The stress is of such magnitude that my health is affected, my veins swell, and my nerves I think, are stretched to the limit (F. age 43, Parag.5. P. 2, line 18-21).

4: Main theme: Re-experience original traumatic event(s):

The fourth main theme was the PTSD sufferer showing psychological distress and physical reactions, which are related to the originating war trauma, accompanied by the emerging sub-themes, including: avoidance experience and sleeping difficulties. People suffering from PTSD re-experienced their traumatic event in many ways. They frequently attributed their psychological distress and physiological reactions to internal and external reminders of

specific traumatic event(s), for example: a war plane, drone, sound of an explosion or watching or hearing sad stories of war waged on other people. Other traumatised individuals re-experienced a past traumatic event when seeing a dead body, parts of human remains or house demolitions on TV. Most of the participants described how they often had unexpected intense memories, flashbacks or nightmares concomitant with harmful and consuming feelings that preoccupied them and that negatively affected their concentration all aspects of their lives. They explained how flashbacks were powerful and painful when reliving or re-experiencing the traumatic event(s). They felt as if the trauma was actually being relived all over again.

Therefore, any symbolism or resemblance of the original traumatic experience acts as a powerful trigger or cue (internal & external) in their memory. Participants described how they felt when they were exposed to internal or external cues related to the initial war-trauma. The cues triggered a sense of reliving or acting out, the causal traumatic experience causing intense psychological distress, and when intensified is coupled with severe dissociative flashbacks episodes (DSM-IV 2000), as quoted, we find the external cues triggering the internal response

Most of the time, ...I relive the awful war experiences as if it is happening all over again, all day long...with disturbing, and intense memory of negative thoughts, feelings, and images of the Israeli attack come as flashbacks, which causing more disturbances to me all day...these intense memories are full with horrific feelings. Such thoughts and nightmares interrupt my sleeping patterns. These past negative experiences can be triggered if someone tells such stories; definitely I will then have a terrifying nightmare during that night. Through the nightmare, I feel I am experiencing a very dreadful event (M., age 24, Parag. 1-3, P. 8, line: 1 - 39).

The Israeli army attacked and demolished our houses to devastating effect, three brothers lost their lives instantaneously, a fourth arrested, and though severely injured, I too was arrested and imprisoned. My daughter lost an eye and two fingers, my wife's injuries were severe. Now, I feel anxious and distressed, extremely nervous and tense, when I watch events similar to these (above events) on TV, or hear about them on the radio or read about them in the newspapers. I feel completely helpless (M. age 59, Parag. 3.4, P. 3 line: 14-25).

When my eldest son got married, I didn't feel any happiness at all. The wedding day just reminded me of his father's death as if it were occurring at that moment, so I felt very sad, and bitter ... I so wished his father could have been present at my son's wedding (F. aged 43, Parag.1. P. 3, line 13 - 17).

I have a negative reaction when I watch TV. If I watch something for example, dead body or injured person on TV, it will have a lasting effect on me for days after, the thoughts and images will stay in my mind. These images and thoughts affected me negatively, very bad and it is very painful. I am trying avoiding all of these images and the negative thoughts but hopelessness (F. aged, 27, Parag. 2. P. 9. Line: 14-19).

Here we have an example of the internal subjective state debilitating the person to such an extent, they are unable to concentrate and therefore continue with studies and normal day-to-day activities. Due to the internal trigger related to past trauma.

Even now, after over a year of the exposure to war experience as you see, it's easy to feel and perceive the fear and stress. All of these feelings have affected me, Always, I am anxious and frightened about being killed, and also, I can't concentrate on my studies and I am unable to do the work as I had planned it. So, every day brings a different story. I couldn't focus in daily activities (F. age 26, Parag1. P. 6, line: 1-6).

4.1: Avoidance experiences

Participants described how distressing memories, such as intrusive images and war related thoughts, affected their mental and physical health status. This led in some cases to avoidance strategies. Avoidance of thinking, talking, reminiscences, people or places relating to actual traumatic experiences that had occurred, were common strategies used by the participants. There seemed to be a belief amongst them that avoiding the place or not thinking or talking about the experience, could prevent stressful memories, distressful and painful feelings and hence, depression being triggered. Most of the participants tirelessly tried to avoid their previous traumatic experiences and tried to make sense of their daily lives. The participants also described that they felt upset and weak and avoided talking with others about their traumatic experiences. However, ultimately these avoidance mechanisms did not stop intrusive memories. Participants described how the involuntary recall of intrusive memories had disturbed their sleep patterns. Moreover, they reported isolation symptoms and negative emotions towards others. They reported suffering from hyperarousal symptoms as well as being more anxious, tense, upset, distressed, irritated and fatigued. As recounted below:

Tirelessly, I try avoiding all of these images and negative thoughts about the distressing war events, but hopelessly ... I am confused, I feel extremely anxious, depressed, agitated, my nerves are always on edge. Frustrated and tiredness, I have frequent disturbing thoughts about suicide too, it scares me to death ... I become more aggressive, shouting and jittery for no reason. I am wound up the whole time, and easily alarmed. I get scared of anything or any sudden sound. It has affected my day-to-day life, I feel life is going backward, and there are no improvements at all (F. age, 27, Parag. 1. P. 3, line: 3 - 10).

Most participants describing how talking or hearing of past trauma aroused negative feelings, thoughts, flashbacks and nightmares of horror. Most avoided such experiences. Emotionally, they felt very sad and distressed and anxious, as quoted below.

Mostly, I avoided talking of my problem, others speaking of their war experience increased negative memories which deeply troubled me. Anxious and upset I had numerous horrific nightmares where I felt I was reliving the direct experience of war, which was dreadful (M. age 24, parag, 9 -10, P. 7, 8, line: 39,1).

Participants described the avoidance of physical locations (places) people and thinking about the actual experience, which could still result in enormous shock and arouse emotional distress. As a result, individuals' behaviour would become very abusive, leading to further avoidance and hence, isolation and heightened anxiety.

When I feel my behaviour is becoming intolerable, I avoid people. I withdraw from family, friends and even the area where I live. I try to avoid any painful places or memories related to the frightening war events, or anything that could remind me of my experiences (M. age 55, Parag. 2, P. 5, line: 13 - 18).

Participants avoided people, and even any discussion or talks about the actual event, because such interactions triggered memories of their traumatic incident, causing unpleasant feelings, emotional distress, increased anxiety and in some cases individuals (and over time) avoidance led to the development of PTSD symptoms. As shown below.

I am trying to avoid the frequent unpleasant negative thought about the distressing events...I don't like to remember it, I am terrified of it, I am trying to forget it and wipe it from my memory, it's like a nightmare. These thoughts which are always making me feel anxious and distressed all the time, and make me want to isolate myself from others... Now, for about a year, I have been

trying to avoid thinking about those overwhelming events ...While I was trying to avoid these memories I felt totally anxious, upset and distressed. I don't talk to anyone, I only whisper to myself (F. age 43, Parag. 11-13, Page 4, line: 20-25).

In the following examples, the participants appear to believe that avoiding talking or even thinking about the actual event, prevents the onset of painful feelings, PTSD symptoms, depression and distressful feelings of intrusive negative reminiscences, where in fact, and over time, the opposite occurs.

I always try to avoid talking about my painful experiences, because sometimes it is not easy to be explained. Sometimes, at certain moments, if I explain these feeling, I will get affected badly. Sometimes, I try to avoid completely talking about some experiences (M. age 54, Parag. 2. P.7, line: 4-7).

I completely avoided talking about the war experiences, I was exposed to. Because, when I hear someone talking about it, I feel extremely sad, and I start to cry, and I feel very anxious and distressed, and then, I withdraw from the people I am sitting with (M. age 49, Parag. 1. P. 7, line: 4 -6).

I try to forget all my terrifying experiences, I don't know why I keep reminiscing; these negative thoughts, feelings and images related to war experiences events, continuously are attacking me involuntary. I can't avoid my feelings about my two beloved sons and other incidents I have witnessed in my life. Many times I have intentionally avoided talking about my terrible experiences, (M. age 61, Parag. 1. P.8, line: 1-5).

4.2: Difficulty falling or staying asleep

This sub-theme emerged from the participants' interpretations of the war experience. They reported having a severe sleeping difficulties, which led to negative emotional feelings and these severely worried or irritated them. They described their sleep

deprivation and irregular sleeping patterns. They related, these disturbances (often chronic), to the frequent exposure to the war related traumatic events, which contributed to: high levels of stress, anxiety and emotional disorders, such as: PTSD, depression and other related psychiatric symptoms. Several examples from the interviews are presented below:

I have great difficulty in sleeping. I can't sleep easily. I stay awake looking through the window for long hours, until 6 am. I have tried to get to sleep earlier, but unfortunately I can't. This is causing me trouble and irritation and makes me feel very anxious and distress, I become very exhausted and can't concentrate in my next day work. I wish I could sleep normally, like anyone else (M. age 57, Parag. 6-9, Page 5, line: 9-17).

I usually have a regular distressing nightmare...of the place where my friends got killed. I have difficulties to fall or stay asleep ... I stay upset until the early morning...When I wake up I feel distressed, terrified and exhausted (M. age 28, parag.2- 5, P.10, line: 3 – 8).

Participants with severe symptoms related to war trauma, reported sleeping difficulties, lack of concentration, mood swings, irritability and feeling fatigued the next day. As reported below

I have very severe difficulties in falling asleep. I stay awake until 6 am, the nightmares and negative thoughts are disturbing my sleep, and these distressing situations keep coming back to me... When I wake up I feel very exhausted, anxious distressed, and depressed, unable to concentrate. These episodes last for about 2 -3 days, after severe sleep deprivation, I feel very, very tired and wound up (F. age 40, Parag. 1-3, P. 6, line: 1 – 8).

When I reliving the past, I am sitting by myself in my bedroom... I stay all night awake, and can't fall asleep... I stay in bed for the rest of the day. That makes me feel depressed, anxious and very distressed, and I feel fearful (F. age 43, Parag. 1. P.5, line: 1-7).

Before our horrific incident, it was easy for me to fall into a deep sleep. But since that event, I have many frequent, repeated thoughts, images and feelings, disturbing my sleep pattern. Also I have severe difficulties getting to sleep (M. age 49, Parag. 4, P. 5, line: 14-17).

I wish I could take medication for my sleeping, but I am aware of the side effects of such medication (M. age 30, Parag. 2. P.7, line: 6-8).

5. Main theme: Coping strategy

The fifth main theme was coping strategy. The negative coping strategies related to war trauma may lead to psychological and emotional problems, which often leads to PTSD and depression. Substantial data show the sub-themes relating to adaptive mechanisms included: religious beliefs, personality traits, being patriotic, family support and social support.

5.1 Religious beliefs

The first important protective moderating sub-theme found was that the participants were infused by fate and fatalism, prayer, reading the Qur'an and patience, which help them to be resilient.

Keeping my (five times a day) prayers and reading the Qur'an I asked God to help me. I had complete faith in Him, and because of this He gave me the ability to cope and maintain a stable life despite the extreme difficulties I encountered. I thus became more patient, tolerant and resilient (F.age 40, Parag. 4, P. 2, line: 7).

Because I completely trust (Allah) God's will knowing Him to be all merciful, I leave my fate to Him. Accordingly, my life is simplified because I have a full belief that what happened is from Allah, therefore, I accept life as the reality it is (M. age 49, Parag. 6, P. 5, line: 26).

5.2 Personality traits

The second important protective moderating sub-theme found the majority of participants were optimistic and able to cope, despite ongoing exposure to war trauma and the current prolonged blockade, because they were completely reliant on God's will, as quoted below

I am optimistic but most of the time I have the feeling that I am pessimistic. I am trying to get closer to God and my family; this will give me more strength and support to cope. (F. age 43, Parag 4, p.6, line 15).

5.3 Being Patriotic

Patriotism was demonstrated parallel with the attachment to Gaza, hopes and desires, ideological concepts, pride in 'martyrdom'¹, the right of resistance as well as the determination to resist and to enjoy society and culture. All participants were devout followers the will of God/Allah.

I have lost two sons, two martyrs...I proudly telling others of their martyrdom whilst defending our country and the Aqsa Mosque. Our society has the fundamental belief that our people die as Martyrs of Allah, and for the sake of our nation (M. age 61, para. 5, P. 6, line: 26).

5.4 Psychosocial Support

This was reported alongside the positive aspects of family life, which were considered as one of the most important factors enabling tolerance, as quoted.

The most important for me is my family, our relationship is excellent. And also we have maintained very good relationships with our extended families (F.age.43, Para.6 P. 7 Line 15-16).

¹ Meaning of "martyrdom" in *the Oxford English Dictionary* - an occasion when someone suffers or is killed because of their religious or political beliefs

Family and extended family, its very construction is based on cooperation (M. age 37, Para. 5. P.2, line: 6).

5.5 Social support

This was received from family, extended family, neighbours, community, and work colleagues and was *the* most important factor, helping individuals and families to deal with the issues of psychological, financial and day-to-day stressors affecting any activity, as quoted below

I received support from family, relatives, neighbours, friends and community. Their support helped me to do my work at my shop, so I feel that I am okay (M. age 61, Parag. 3 P. 9, line: 4, 5).

6.6 Discussion

Throughout the discussion and the data analysis of this qualitative study, the results are addressed within the transactional model by Lazarus, 1966; Lazarus & Folkman, 1984; Lazarus & Launier, 1978), using guidelines summarised by Glanz and colleagues (2008, p. 214), [see Table 6.1 appendix B] to understand, more fully, the experiences of adults living in the Gaza Strip, under constant war and siege. Through the thematic analysis model by Braun and Clarke (2006), the current researcher ensured that the main themes and the sub-themes have been presented accurately, with guaranteed anonymity, and irrelevant data has been omitted to avoid repetitive notions (Streiner, Norman & Cairney, 2014). The constant exposure to war traumatic events, threat on life, long-standing blockade, Israeli attacks and dire economic conditions have found to be causal of distress, reactions of anxiety, PTSD and depression.

Five main themes have been identified for this study: Siege related stressful living conditions in Gaza, war related traumatic

experiences, psychological negative effects of war related trauma, re-experienced original traumatic event, by symbolism or resemblance of PTSD symptoms in behavioural patterns and coping strategy. Each main theme includes sub-themes, as explained before and as (see Table 6. 2: main themes and sub-themes. These findings will be discussed in the general discussion and conclusion chapter (7), in the light of the current literature related to war, blockade and political conflicts.

The participants in this study demonstrated war and blockade had severe psychological impacts on them. They spoke about their general psychiatric morbidity and somatic complaints, the psychological impact and their emotional reactions to these events in terms of feelings of distress, anxiety, and depression. These findings are consistent with most of the psychological literature relating to war, blockade and political conflict (Cardozo et al., 2004; Kienzler, 2008; Yehuda, McFarlane & Shalev, 1998; Miller & Rasmussen, 2010; Norris, 1992; Pupavac, 2004, 2001). These findings are supported by most of the Palestinian studies, for example, Joma'a & Thabet, (2015) and Shamia et al. (2015). These traumatic events can lead to an increase the psychological disturbances, including PTSD, depression (Madianos et al., 2011) and anxiety-related disorders (Thabet et al., 2013, 2009, 2008), co-morbid with somatic complaints (Farhood & Dimassi, 2012; Punamäki et al., 2002).

The themes and sub-themes were in relation to the response of the participants to living with traumatic event(s), which included frequent negative feelings, thoughts, flashbacks, nightmares and sleep difficulties, injury and helplessness. Highly repetitive emotional reactions were the consistent narratives of all the participants of both genders during the 17 interviews. Consistent with the findings of Abu Hien (2008) and Thabet and colleagues (2008), the participants

explained how Israeli aggression, inflicting physical injury and long term disability, had major negative psychological and emotional impacts on their daily lives. Most of the participants reported that there was an association between their injuries, psychological symptoms and emotional reactions. The participants related how frequent nightmares, sleep disturbances, frequent negative feelings, thoughts, images and flashbacks, were due to negative responses to their own injuries and their traumatic experiences. Hence, the outcomes of the study are consistent with those of Hammouda (2009).

Participants demonstrated how they were still suffering from psychological emotional symptoms and PTSD. Past traumatic experiences, including frequent negative feelings and thoughts, flashbacks, nightmares, war-related sleep difficulties and unexpected threats were all reported. They also discussed how they felt and how they were suffering from psychosomatic problems in relation to their injuries and past traumatic events, which was affecting negatively all aspects of the family, work and community environments. Further, Injuries, such as loss of limbs, eyesight, and remaining inoperable shrapnel, were causing permanent disability. Thus, living with long-term or permanent disability, caused by war was a major source of stress (Johnson et al., 1985). This finding is supported by DSM-IV-TR APA (2000), Kienzler, (2008) and Pupavac (2004, 2001).

Causal to the above psychological negative effects, is the long-standing blockade which has led to high rates of unemployment, lack of food, lack of security and instability. This finding is consistent with Thabet and colleagues (2014, 2009, 2008; 2007).

Concomitants to the above symptoms were the triggers of hearing and seeing media reports, where the traumatic event was reenacted psychologically. These findings are consistent with those of El-Sarraj et al. (2008), Punamaki et al. (2002) and Thabet et al. (2008) and war related traumas (De Jong et al., 2003). The most common traumatic events resulted from watching mutilated bodies and injured people on TV, hearing the sonic sounds of jetfighters and witnessing drone attacks (Abu Hien, 2008; Lubbad & Thabet, 2009). Traumatized individuals who faced symbolism or resemblance of the initial traumatic event(s) were re-experiencing the initial traumatic experience as if it was in the present (DSM-IV, 2000).

Several participants accepted the living conditions in Gaza “as they are”: these coping strategy themes are inclusive of the model’s techniques. The strongest possible protective sub-theme was religious belief, including trust in God and family support. However, some participants who had been exposed to war related trauma felt hopelessness, low self-esteem and felt life to be meaningless. Consequently, they were very distressed, very pessimistic and uncertain about their future. People in Gaza live with the reality of imminent attack. Consequently, participants were fearful of injuries, deaths and demolished homes that might occur at any time, caused by the increased sense of current threat (Ehlers & Clarks, 2000). The negative appraisal process revealed that a majority manifested authentic psychological and emotional symptoms; they also experienced co-morbid physical symptoms. The negative cognitive appraisal process has an influence on both emotions and stress (Lazarus & Folkman, 1984; Maslach, 1979; Schacher & Singer, 1962, 1979; Scherer, 1986). These findings, supported by previous studies (e.g. Thabet et al., 2009, 2008; Qouta, 2005), indicated that general anxiety is characterised by

excessive, uncontrolled (and often) irrational worry. This study found that some of the participants exaggerated their responses in relation to anxiety to dramatise the actual effects of unexpressed anxieties. This can be interpreted as a type of free association to satisfy themselves of the extent of their anxiety, as well as to satisfy the questions of the researcher. This is can be a classic example of transference and counter-transference between participants and the researcher, as validated by Prasko and colleagues (2010). All of the above conditions, reactions and findings are consistent with previous research (Holroyd, 1982; Hobfoll, 1989; Baum, 1990), who found stress is a psychological, physiological, and behavioural reaction that people have in response to events that harm, threaten or challenge them. These results were displayed by both genders (Lazarus & Folkman, 1984; Saigh, 1984). See also, Khamis (2000, 1993), Punamaki et al. (2008), Thabet et al. (2009) and Qouta (2005).

In this study, depression and negative self-esteem (including mood swings, very short tempers, a lack of concentration) are considered the most common psychological reactions to war related trauma among adults in the Gaza Strip (Madeoins 2011; Qouta et al., 2008) and are often related to symptoms of anxiety (Marcus, Yasamy, van Ommeren, Chisholm, & Saxena, 2012). Some individuals developed PTSD symptoms of varying severity, often causing an individual to isolate themselves from social interaction. Physically, participants from both genders revealed that they suffered from severe, often permanent, headaches.

This finding is in line with the definition of depression: it is characterised by a pervasive low mood, low self-esteem, and loss of interest or pleasure in normally enjoyable activities. Depression is a disabling condition, which adversely affects a person's family, work,

sleeping and eating habits, and/or general health (DSM IV-TR 2000). This is consistent with several Palestinian adult studies (Madianos et al., 2012; Punamaki et al., 2008). This study's outcomes are also consistent with others' findings (Kilpatrick et al., 1992; Norris, 1992), who collectively found that depression, acute stress and anxiety are related to war aggression and political violence.

The coping strategy accompanied with emergent sub-themes, religious beliefs (i.e. religious motivation, fate and fatalism, prayer, reading of the Qur'an, patience and resilience, and personality traits included: optimism or pessimism about a sense of the future. Another important protective strategy against all the distress resulting from war stems from the concept of '*Martyrdom*', in the sense that life is laid down for God and country. The implication is therefore that religion is the glue for social support (Sherif & Sherif, 1953; Miller, 2003). Schwarzer (2013) found that positive self-belief is a major resource factor for coping with stress (Hobfoll, 1989; Lazarus, 1991).

Psychosocial support is represented as family support and extended family support; the majority of participants showed how family and extended family were considered to be one of the most important moderating factors that enable tolerance and resilience. So, any affected family could be encouraged to learn more concerning their chronic and long-term disability and thus, be able adopt a strategy to cope with new and painful loss and/or chronic disability (Kastenbaum & Costa, 1977; Kosten et al., 1985). Importantly, resilience implies strength, flexibility and a capacity for controlling, after extreme stress, thus leading to relative normal functioning (Lazarus & Folkman, 1984; Richardson, 2002). Even when an individual is temporarily overwhelmed by highly stressful events (e.g. trauma, death, political disturbance and disaster),

resilience maintains the individual's mental health stability (Bonnano, 2004; Harel, Kahana & Kahana, 1993; Wilson & Drozdek, 2004; Yehuda, 1998). These moderating factors were considered to be important coping factors in Gaza.

From Study 3 it was concluded that the participants emphatically indicated that they were experiencing the three major components of psychological, emotional and physical reactions. Regarding the psychological symptoms, the participants consistently exhibited PTSD symptomology, i.e. intrusive negative feelings and thoughts, images, flashbacks, nightmares, avoiding people, places and conversations related to traumatic event, loss of interest, and lack of concentration, exaggerated reactions and sleep difficulty. The commonly expressed indications of emotional reactions included stress, anxiety, depression and aggression toward their siblings and others. The physical symptoms included persistent headaches as well as feeling fatigue. These findings are consistent with the model of the cognitive appraisal process on both emotions and stress (Lazarus & Folkman, 1987, 1984; Maslach, 1979; Schacher & Singer, 1962, 1979; Scherer, 1986).

6.7 Strengths and limitations

The main strengths of this current qualitative study are, that being the first of its kind, this qualitative study it has been designed to contribute to findings from other adult population studies by applying semi-structured interviews reflecting the diagnostic criteria of DSM-IV (2000) for PTSD, depression, anxiety and stress. It has led to the identification of the main contributing predictors for trauma, in adults in the Gaza Strip that are contributing stressors to the increase of psychological, emotional and physical illness. Resilience was found in the form of religious strategies, participants seeking

and finding strength in Allah/God, by performing prayer more diligently, and importantly, reading the Qur'anic verses. In light of the insights made, a broadening of the understanding of a notion of what constitutes the normal response of adult reactions in the face of multiple faces of war trauma was projected. Thus defined, the research findings clearly highlight, that because of the effects of war and siege, the need for early intervention and a holistic approach to help is an urgent requisite so that adults traumatised by such extremes, as experienced in their daily lives and over long periods of time, are diagnosed and treated at the earliest opportunity.

These findings should be viewed as preliminary results (in context of future research) and are limited by the small sample size (n=17), as well as the lack of control group, the sample cannot be considered as a representative sample. The results represent the views of 17 participants and the lived experience of their own self-evaluation of their traumatic experiences. The findings cannot be generalised, as the study does not have sufficient participants from different regions to enable the useful comparison between different regions.

Moreover, the gender breakdown was not equal, with there being more males than females (i.e. were 12 male participants and 5 were female). Some of the participants were cautious of some of the questions in the interview. Furthermore, as the interviewer was a male, all the females were interviewed in the presence of an adult or mature member of the same family due to religious and cultural reasons. It is believed that this may have distorted or limited the answers given by the females due to embarrassment or reluctance to share vulnerable information in front of a family member.

6.8 Reflexivity

Throughout this qualitative study, the researcher gained more understanding of the psychological phenomena among adults who are living in the Gaza Strip. This research has explored which factors cause stressful and difficult situations, trauma, PTSD, depression and anxiety. It has also been found that adults in the Gaza Strip suffer from general psychiatric comorbidities that are related to direct and accumulative exposure to traumatic experiences of war, unexpected attack and prolonged siege. The adults have suffered from the consequences of blockade for more than 10 years, including extreme levels of trauma, distress, anxiety, PTSD, depression and other types of psychological, physical and emotional disorders. Importantly, the blockade has affected the economic situation, with the secondary effects of endemic joblessness, severely reduced household budgets, the curtailment of individuals' daily activities and negative impact on the quality of life. Through my observations during the interview process, some of the participants were still in great shock, which affected their social activities.

The characteristics of strong belief in religion, martyrdom, fate and fatalism and family support have strengthened the patriotic sense of resistance to the Israeli occupation. The sense of being patriotic and holding close ideological beliefs of nationalism (love of country) remains a fundamental pillar supporting the coping mechanism and helps to overcome the often overwhelming feeling of helplessness. These factors clearly help to protect adults from developing PTSD symptoms, despite the ongoing war, armed blockade, insecurity and instability.

6.9 Conclusion

In this chapter, the third study, an exploratory analysis of the traumatic experiences of adults living in the Gaza Strip has been presented. Five main themes have been identified about which the Palestinian adult participants living in the Gaza strip contributed their personal experiences. (See Table 6. 2: main themes and sub-themes).

The adult participants from the Gaza Strip in this study conclusively indicated that they experienced the three major components of psychological, emotional and physical reactions, due to a sense of reliving the post traumatic events as if it were recurring at the present time. Regarding the psychological symptoms, the participants consistently reported PTSD symptomology. The commonly expressed indications of emotional reaction included stress, anxiety, depression, aggression, avoidance, numbness, diminished interest, irritability, lack of concentration and exaggerated arousal responses. The physical symptoms included persistent headaches, sleep difficulty, as well as feeling fatigue, hypertension, diabetes and having epileptic bouts.

This study has identified that the coping strategies, along with psychosocial support, are major contributors to overcoming the psychological, emotional and physical reactions to trauma. These strategies include deep religious belief, fatalism, family, support and societal support, patriotism, as well as positive personality traits. Through these strategies, participants could alleviate their PTSD symptoms, anxiety as well as their depression related to war and siege traumas. These protective factors have been shown to enhance and strengthen adult resilience considerably.

Finally, the consequences of war, the general fear of an unexpected attack and the continuation of the long-standing

blockade on Gaza, have a significant potential to affect the psychological well-being of Palestinian adults in the Gaza Strip. However, a positive environmental atmosphere of family, community and societal support mechanisms, can ameliorate considerably the negative feelings of stress. It is recommended that future research needs be conducted on adults in Gaza, so as to be able to implement more preventative and more interventional psychosocial programmes for adults.

6.10 Future Research

Due to the lack of both qualitative and quantitative research in clinical psychology in the context of the adult population living in the Gaza Strip, the researcher suggests the following studies should be conducted as quantitative research: What are the most important sources and effects related to stress in Gaza, with an aim to determining ways of improving day-to-day living in Gaza? Effective approaches for the treatment of stress, anxiety, depression and PTSD for adults in the Gaza strip should be developed.

The next, final, chapter will be containing general discussion and a conclusion to the three studies carried out for this doctoral thesis.

Chapter 7: **General Discussion and Conclusion**

7.1 **Introduction**

The findings in the three studies presented within this thesis have indicated that Palestinian adults in Gaza suffered from re-experiencing PTSD symptoms. These were related to ongoing exposure to war, siege and associated stressful situations. War, siege and life-threatening risk factors were considered the main predictors for PTSD, depression and general psychiatric comorbidities. The overall findings have demonstrated that there are significant differences with regards to age, gender, marital status, place of residency and educational levels, specific to re-experiencing traumatic events related to war and siege.

The findings of the three studies led to the conclusion that war and blockade were the predominant cause of the increased prevalence rate of PTSD and the co-morbidity of other psychological disorders as well as associated physical symptoms. These studies found that the Palestinian adult participants in Gaza had been exposed to a variety of traumatic events during their lifetime. The findings provide theoretical and empirical support that validates the high prevalence of PTSD in an ongoing siege compared to war and post-conflict studies.

The three studies in this research were designed to address the paucity of adult population studies in developing countries, including the Gaza Strip, for until now, the main focus has been on children and adolescents, (De Jong, et al., 2003, 2001; El-Sarraj et al., 2008; Qouta, 2005; Modaians et al., 2011; Punmuki et al., 2002; Thabet et al., 2013, 2008). Crucially, a continuous war, threat of attack and the ten years of blockade have hindered recovery from mental health problems.

Summary of the thesis aims

This thesis had three main aims, designed to bridge the vacuum in the literature and was conducted as three studies. The first two quantitative studies were cross-sectional. The first quantitative study (study 1) was designed to assess the impact of war on the prevalence rate of PTSD among young Adults, adult and older adults living all their life in the Gaza Strip. The second quantitative study (study 2) was designed to estimate the prevalence and predictor factors for PTSD comorbid with depression and general psychiatric morbidity amongst the adult population in Gaza. The third, qualitative study (study 3), was designed to explore the traumatic experiences of adults living in the Gaza Strip.

7.2 Summary of the findings in the light of the theoretical perspective

In this part, the major findings from the three studies are summarised. This, in order to obtain coherent and profound understanding of how war, siege related traumatic events have influenced the prevalence rates of PTSD, depression and general psychiatric morbidity. With regards to the prevalence rates of PTSD, both quantitative studies (Studies 1 and 2) found that 90% of the Palestinian adult participants living in the Gaza Strip exhibited high prevalence rates of PTSD symptoms, of which, 36.7% met the criteria of DSM-IV for PTSD. The figure for females was 38.9%, whilst that for males was 33.7%. According to age, 25.7% of young adults, 37.8% of adults and 45.7% of older adults had PTSD. These results correspond with the findings of several other researchers (Cardozo et al., 2004; De Jong et al., 2003; Farhood et al., 2012, 2006; Kessler et al., 2009; Powell, et al., 2003).

The third qualitative study collected data from 17 semi-structured interviews and a thematic analysis method. Five main themes were identified which explored the participants' subjective experiences of war and siege: siege related stressful living conditions; war related traumatic experiences; psychological negative effects of war related trauma; re-experiencing initial traumatic events by symbolisation or resemblance and coping strategies. These findings revealed that, even though there were significant individual differences in the level of 'psychopathological' symptoms found, there were also common sub-themes in how people experienced such traumatic events related to war, siege and the coping strategies.

The results indicated that continuous exposure to war and siege could substantially increase the risk of developing psychological disorders such as, PTSD, depression, emotional reaction, anxiety, physical and social dysfunction, due to an individual's negative appraisal through cognitive information processes, which increase the sense of the current threat (Ehlers & Clarks, 2000; Lazarus & Folkman, 1984). It was clear that in this study there were more complex variables which contributed to the increase in PTSD and depression. The population of Palestinian adult's already had a view of the world as being unsafe and had accepted the living conditions in Gaza "*as they are*", yet what appeared to be distressful was a dissociative defensive pattern of avoidance, which they commonly used as a coping strategy. These findings have been supported by previous studies (e.g. Thabet et al., 2009, 2008; Qouta, 2005).

Gender effect

The findings of Studies 1 and 2 showed that there were significant differences in PTSD according to gender, with female

adults scoring higher than male adults on the re-experiencing subscale of PTSD, as has been the case in most previous epidemiology studies (e.g. Ai et al., 2002; Ullman & Filipas, 2005; Kessler et al., 2009, 1995). This is due to frequent exposure to war related trauma; in addition females are more vulnerable due to their emotional involvement with family daily life (Kimerling et al., 2002; Finkelhor et al., 1990). The above finding is theoretically supported by the Ehlers and Clark's (2000, p. 320) cognitive model of PTSD.

Age effect

The novel findings of Studies 1 and 2 were the significant differences found between adults and older adults, with their scoring significantly higher than young adults on the *re-experiencing subscale of the PTSD*. Further, adults and older adults were not significantly different from one another on the *re-experiencing subscale*. The fact that older adults reported suffering from PTSD symptoms more than young adults, is in line with other findings (Cardozo et al., 2000; Eytan et al., 2004). Theoretically, for both studies, frequent exposure to war related traumatic events were found to increase the effect of trauma stressors causing significant differences in PTSD, as interpreted. Accordingly, the individual's negative appraisal during the course of the information processes, are more likely to lead to PTSD, depression, co-morbid with physical health issues (Ehlers & Clark, 2000)

Education and marital status effects

Studies 1 and 2, found that married participants with a low level of education, females in particular, scored significantly higher than those unmarried with higher levels of education. Accordingly, those with lower educational attainment females in particular, suffered more psychological problems, exhibited more symptoms of PTSD, comorbid with severe depression, somatic symptoms, and

trauma related to siege. For both studies, it emerged that married participants with a low level of education, were more affected and exhibited re-experiencing symptoms of PTSD, depression and somatic symptoms.

These findings are consistent with those of Iversen et al. (2009), Tolin & Foa, (2006), Saab et al. (2003) and Sundin et al. (2010), who found that for married individuals with low levels of education, females in particular, this was a strong risk factor for experiencing PTSD symptoms and an increase in its lifetime prevalence rate. Kessler and colleagues (2008, 1995, 1984), found that married individuals demonstrated higher prevalence rates than single individuals. Thabet and colleagues, (2009, 2008) found that married women showed higher lifetime prevalence rates of PTSD and depression, especially those who had lost their husbands to war. These variables are commonly found in political conflicts, involving direct or indirect exposure to war (see similar studies on Gaza, e.g. Hien 2007; Joma'a et al., 2015; Thabet et al., 2015).

Residential location effect

Recall, at 365 km² in area, the Gaza Strip is home to a population of 2 millions of which 78% are refugees (UNRWA, 31 October 2016) and the density is 5,154, persons/km² (PCBS, 12 October 2016). Since the Israeli withdrawal in September 2005, there have been three major Israel incursions into Gaza, which has been compounded by the ongoing blockade on land, air and sea, beginning in 2007. These concomitant factors have seen the adult population in Gaza city experience degrees of severity in trauma and PTSD comorbid with depression and other general psychiatric health conditions more than in the other districts of the Gaza Strip.

The results showed that there were no significant differences between the residential locations for most measures. However,

when the data was analysed by subscales some significant interactions were observed. The current study's novel findings have demonstrated that the area of residency does have a significant impact on PTSD prevalence. Statistically, the findings showed significant differences between the residence locations and PTSD symptoms after exposure to the traumatic events. Contrary to earlier studies, the current researcher found that participants who lived in Gaza city scored significantly higher on the PTSD subscale for hyperarousal when compared to those living in the middle Gaza region. Gaza city is the most targeted place during any war of aggression for several reasons, including: the presence of governmental buildings and homes of senior political leaders, the short distance to the Israeli border (2 km) and the high population density compared to other areas. Consequently, Palestinians living in Gaza city are continuously exposed to war related trauma, which significantly contributes to psychological problems and more physical illness (Farhood et al., 2012, 2006; Thabet et al., 2013 Shama et al., 2015; Schnurr & Green, 2004) than other parts of Gaza.

7.3 Prevalence rate of PTSD and comorbidities among Palestinian adults

Exposure to traumatic experiences

The second quantitative study was designed to estimate and predict the prevalence for PTSD, comorbid with depression and general mental health among Palestinian adults living in the Gaza Strip. The findings in this study were consistent with those for Study 1, in terms of frequency (and variety) of exposure to traumatic events, the prevalence rate of PTSD and mental health comorbidity. The findings of Study 2, included: negative appraisals giving rise to

a sense of current threat or mental defeat associated with persistent PTSD symptomology, as supported by the cognitive model of Ehlers & Clark (2000) (see also Halligan, Michael, Clark & Ehlers, 2003).

On the Gaza siege checklist scale, it was reported that after eight years of blockade, participants were exposed to an average of 11 traumatic events, and on average to at least 9.7 traumatic events related war. This is contrary to other findings (Cardozo et al., 2004; Powell et al., 2003), where it was reported that after three years of the Sarajevo siege, participants was exposed to an average of 24 traumatic events. However, both of these studies found a consistent prevalence rate of PTSD, whereby 38.6% of the sample developed PTSD. In the current study after eight years of blockade, it was found that 42.1% of the adult participants were suffering from psychological problems, 40.9% of females and 43.6%, males. Regarding age, 32.4% of young adults, 50.2% adults, and older adults were experiencing such problems (see Table 5. 2). These findings are consistent with those of Benjet et al. (2016), Nuttman-Shwartz and colleagues (2015), Powell, et al. (2003), Bleich et al. (1997) and Shalev et al. (1998, 1996),

On the checklist, the highest score of 87.4% was attributed rapid increase in commodity costs, whilst the lowest pertained to leaving Gaza 9.4%. Feeling of being in a “big prison”, 82.4%, electricity shortages 75.6% and 72.8% declined social visits (see Table 5.3 in appendix A) also were scored highly. Similarly, Joma’a et al. (2015) and Thabet et al. (2015) found that the most frequent stressors were increased prices and shortage of electricity.

General mental health comorbidities

Individuals suffering from chronic PTSD can re-experience several mental disorders, physical and emotional symptoms related to the initiating traumatic event (Kessler et al., 1995; Kilpatrick et al.,

2013). The findings of Study 2 have shown how extended exposure to traumatic events is related to PTSD and depression as well as physical problems. Specifically, it emerged that the prevalence rate of general mental health comorbidity among the participants was 67.1%, a finding in line with Lebanese studies (e.g. Farhood et al., 2012, 2006; Karam et al., 2008). Further, no significant differences across age or gender were found regarding PTSD symptomology comorbid with depression and somatic symptoms (Gerrity et al., 2007). Contrary, Study 2 showed PTSD comorbid with depression had a significant interaction effect on the *somatic subscale only*, whereby adults scored higher than young adults and older adults, which is similar to the findings of Grant et al. (2008).

Depression comorbidities

The adult prevalence rate for depression was 38.4%. Females reported suffering from depression more than twice as much than males (Cardozo et al., 2004; Ducroq et al., 2001; Kessler et al., 2005). In Study 2, no significant differences between young adults and adults or between married and unmarried participants, with respect to the total score of depression were found.

The qualitative study and its Comorbidity

With regards to the findings in Study 3, which was qualitative, this involved collecting 17 semi-structured interviews and subjecting the collected data to thematic analysis method. Five main themes have been identified in chapter 6 (see also, Table 6. 2). The findings showed that most of the Palestinian adult participants had been exposed to more than one traumatic event during their lives. Constant threat to life, war, siege, unexpected Israeli attacks and uncertain economic situations were causing distress, anxiety, PTSD, depression and physical problems.

The participants narrated their psychological and emotional reactions to traumatic events as feelings of distress, anxiety and depression. Differences were found in levels of psychopathological symptoms. Common sub-themes that came under the coping strategies theme: included: religious beliefs, robust personality traits, being patriotic, psychosocial support as well as family, social and community support, as seen in chapter 6.

The findings were in line with the transactional stress and coping theory (Lazarus, 1984) and Ehlers and Clark's (2000) cognitive model for trauma and PTSD. They contribute to the existing (limited) Palestinian literature as well as provide assistance, guidance and support, to those experiencing difficulties with the often severely stressful living conditions. The findings confirm that repetitive exposure to traumatic events increases risk factors for psychological disturbances, as well as physical and social dysfunction problems (Canetti & Lindner, 2016; Ehlers and Clark 2000; Lazarus, 1984).

Primary and secondary appraisals are needed to understand (transactional confusion) between the nature of war and siege stressors, the adults' fears and worries, as embodied in transactional theory (Lazarus, 1984). Negative appraisals of accumulative exposure, are more likely to lead to PTSD, depression, anxiety, comorbid with physical health issues (Ehlers and Clark 2000; Lazarus, 1984). These pathological responses can occur when adults report a sense of continuous threat to self, due to negative appraisal that gives rise to both a sensed and actualised perception of a current threat of war (Ehlers and Clark 2000; Lazarus & Folkman, 1987; Lazarus & Launier, 1978).

Many also experienced comorbid physical symptoms, including fatigue, sleep difficulties and constant headaches.

However, sometimes the participants seemed to have exaggerated the degree of fears and worries. This did not mean a *lack* of underlying generalised anxiety. This general anxiety is characterised by excessive, uncontrolled (and often) irrational worry (DSM-IV-TR 2000; Thabet et al., 2009; 2008; Qouta, 2005). Transactional theory demonstrates Palestinian adults primarily evaluate trauma both internally and external, with cognitive appraisal being a secondary coping mechanism (Cohen, 1984). This appraisal can be adaptive or maladaptive, due to unclear and unresolved situations, and sometimes dissociative defensive process of avoidance of the ongoing reality of daily danger in Gaza (Glanz et al., 2008; Thabet et al., 2014, 2009, 2008, 2007).

As explored above, war related symptoms of trauma triggers (hearing, seeing, media reports) were reenacted psychologically (Hien, 2007; De Jong et al., 2003; El-Sarraj et al., 2008; Punamaki et al., 2002; Thabet et al., 2008). This finding was found to be similar to one in Study 3 whereby participants re-experienced past trauma through symbolism or resemblance of the original event. Psychological distress and physical reactions of war related trauma, as *if* it were occurring in the present. This can mean experiencing acute psychological distress as a result (DSM-IV, 2000).

Coping strategies

Strong protective sub-themes are religious beliefs, including trust in God and family support which restore balance and stability (Lazarus & Launier, 1978; Lazarus & Cohen, 1977; Cohen, 1984). Religious beliefs cover; religious motivation, fate and fatalism, prayer, reading of the Qur'an, patience and resilience. This coping strategy was followed by the emergent sub-theme of personality traits (e.g. optimism or pessimism about the future). Religion was the primary coping strategy enabling participants to accept the living

conditions in Gaza “*as they are*”: These themes are in accord with the coping and stress theory by Lazarus (1978). However, some participants who were exposed to war related trauma felt helplessness, low self-esteem, and felt life to be meaningless and reported they were very distressed, very pessimistic, and uncertain about their future. Even then participants related that belief and faith in God was a main coping strategy (Antonovsky, 1979; Lazarus & Folkman, 1984; Saigh, 1984; Punamaki et al., 2008; Thabet et al., 2009; Qouta, 2005).

Family support and extended family were mentioned by the majority of participants who individually and collectively explained how these were considered to be one of the most important moderating factors along with religious beliefs that enabled tolerance and resilience. Psychosocial support gives family support additional community structure inculcating understanding so as to learn management of chronic and long-term disability. Often positive adaptive strategies are adopted so as to cope with and ameliorate psychological symptoms arising as a result of painful loss and/or chronic disability (Kastenbaum & Costa, 1977; Kosten, et al., 1985).

Resilience refers to strength, flexibility, and a capacity for control after extreme stress so as to regain relatively normal functioning (Lazarus & Folkman, 1984; Richardson, 2002). Even when an individual is temporarily overwhelmed by highly stressful events (e.g. trauma, death, political disturbance and disaster), resilience maintains the individual’s mental health by deploying adaptive strategies (Bonnano, 2004; Wilson, 2004; Wilson, Wilson, & Drozdek, 2004; Yehuda, 1998). These moderating factors were considered to be important coping factors in Gaza.

7.4 **An interpretation of the thesis**

This thesis has examined through quantitative and qualitative approaches a variety of psychological problems among a group of Palestinian adult participants living under the conditions of war and siege in the Gaza Strip. An evaluation therefore, is a tapestry of interconnected variables that have scale and severity which include: Aims, risk factors, direct or indirect exposure to war and siege related trauma. The main three criteria of DSM-IV for PTSD include: re-experiencing, avoidance and hyperarousal symptoms. The research covered hypotheses methods, participants, materials, semi structure interviews, procedure, and data collection. The IBM SPSS statistics package version 20 was used to perform: Multiple linear regressions, one-way ANOVAs, *t*-tests, ANOVA (univariate), MANOVA (multivariate) and Post-hoc were all used for this thesis.

This thesis also includes limitations and strengths, implications, conclusions, directions for further research, concluding remarks and results. The qualitative study involved identifying themes and sub-themes to establish channels of communication and structures for analysis. Overall, the aim of the thesis was to estimate the prevalence rates of PTSD, comorbid with depression and general mental health. The long term intention was to add to extant research so as to better understand, diagnose, and treat individuals and communities living under the severe conditions of war and blockade in the Gaza. In general, the research studies were theoretically and empirically supported by a number of epidemiological studies, theoretical and empirical reviews, theoretical cognitive models, thematic analysis as well as the transactional theory of stress and coping, coping strategies and resilience.

7.5 Limitations

The current version of the DSM - 5 had not been translated into Arabic during the time of data collection and to date; the current Arabic version (DSM-IV) of the PTSD is still in use (Shamia, Thabet, & Vostanis, 2015; Thabet, Abu-Khusah, & Vostanis, 2014). Methodological short-falls (to include shortages of Palestinian adults' literature) meant there were insufficient data to predict the prevalence of PTSD, co-morbid with other psychiatric disorders. This affected interpretation and therefore validity and reliability during sampling. In addition, data collection involved recall of past traumatic events and respondents' reports were based on their subjective accounts. Event recall over time may become exaggerated or diminished thus distorting symptomological reporting. Further qualitative research using structured clinical interviews needs to be conducted to compare the current findings with other studies (Farood et al., 2012; Silove et al., 2014, 2007).

Study 3 has its limitation - i.e., that the sample size was small ($n=17$), as well as the lack of a control group. The gender balance of the participants was not equal with more males than females. When females were interviewed in the presence of an adult or mature member of their family, due to religious and cultural reasons it could have been that they gave guarded answers.

7.6 Strengths

The nature and design of the studies was cross-sectional and snowball sampling has been used. For the two quantitative studies the representative sample was 500 participants. The qualitative study applied semi-structured interviews reflecting the diagnostic criteria of DSM-IV (2000). The fact that prevalence of PTSD and comorbidity with depression and general mental health has been

measured among Palestinian adults in Gaza for the first time in a community sample is a paramount strength. Additionally, this study's findings are consistent with surveys and studies conducted in communities with similar situations as to those found in Gaza, that are based on the use of the theoretical cognitive model of PTSD proposed by Ehlers and Clark (2000). Furthermore, the findings support the content validity of the four scales reliability. The research outcomes clearly highlight traumatised adults' need for a rapid diagnosis so as to receive remedial treatment at the earliest opportunity.

7.7 Triangulation

This mixed-method study integrates quantitative and qualitative data amongst Palestinian adults suffering from PTSD, depression and other psychological problems in the Gaza Strip. The Qualitative method was employed to explore the traumatic experiences of Palestinian adults living in Gaza. The three studies are novel as no prior studies have used a mixed-method approach to achieve and examine input from Palestinian adults with PTSD, depression and general psychiatric morbidity in Gaza.

The quantitative approach allows an understanding of the relation between the variables. Quantitative findings are largely complementary of the qualitative outcomes and illustrate the importance of the perceived psychological factors. Religious beliefs, psychosocial and family support for coping and resilience were adapted as coping strategies amongst Palestinian adult participants. The qualitative findings highlight the significance of considering adults' psychological, emotional and physical health experiences when examining the subjective perception of adults' concerning their daily life activities.

The quantitative studies confirmed that in fact that there were positive associations between traumatic experiences and the high prevalence rates of PTSD, depression and other related disorders. Both quantitative studies reported that the high prevalence were war and siege related. Then, statistically, in the first study, results showed significant differences in PTSD within the same age and gender groups, due to higher scores on the re-experience subscale. In the second quantitative study, the results showed adults living in the Gaza city scored higher on the hyperarousal PTSD subscale. The results showed a high prevalence rate of depression on the Beck inventory and on the somatic symptoms of general health questionnaire subscale. Despite this, in the qualitative study the participants conclusively indicated that they experienced the three major components of the psychological, emotional, and physical reactions and perceived negative consequences, reflected in their negative perception of living in Gaza. It can be said that triangulation occurred as the quantitative and qualitative results show that Palestinians with chronic PTSD comorbid with other mental disorders have suffered more. This is due to the effects of the type of the stressors, duration, degree, and severity of exposure to a traumatic event. Consequently, the adults across the quantitative and qualitative studies are re-experiencing original trauma through symbolism and/or resemblance of an original event concomitant with behavioural patterns.

Quantitative studies confirmed that the Palestinian adult population in the Gaza Strip is a heterogeneous group. Statistically, the outcomes from both quantitative studies led to the conclusion that there is a significant difference in how both genders experienced PTSD based on their age and gender. The findings from the qualitative identified five main themes related to war and siege.

These themes reflect the perceived challenges of adults regardless their age and genders, experience the same traumatic event. These risk factors negatively increased the prevalence of PTSD comorbid with other psychiatric disorders among Palestinian adults. It can be said that triangulation occurred, as the results in both quantitative and qualitative studies support each other; amongst Palestinian adults regardless their age and gender across the three studies, due to the significant effects of the continuous exposure to traumatic experiences related war and siege.

Similarly, Quantitative and qualitative studies suggested that due to unpredictable war events, adults might experience psychological difficulties. This is because the unpredictable traumatic event leads a small proportion of the participants to respond negatively which involved intense feelings, fear, general anxiety, distress and helplessness. The symptoms of PTSD and depression in such distressful situations can be thus initiated. Statistically it was shown that those continuously exposed to traumatic experiences are more likely to develop PTSD, depression and general mental health issues. It can be said that triangulation occurred because the results across the quantitative and qualitative studies support each other; in a way that some of the Palestinian adult participants who experienced war trauma, appeared to develop PTSD, depression and other related disorders. Therefore, it can be concluded that the more an individual is exposure to war trauma; more psychological problems are likely to emerge.

7.8 The implications of the study

Two million Palestinian inhabitants in the Gaza Strip still suffer from the significant distress from fear of unexpected aggressive attack and some still suffer from long-term psychological problems.

Therefore, the current study has vital and catalytic implications for predicting factors that increase the risk of the prevalence of PTSD, comorbid with depression and other general psychiatric disorders, among the adult population in Gaza.

Holistic multidisciplinary treatment approach should be based on the diagnosed type and severity of the disorders. An intervention programme should be aware of the person's gender, age, religious beliefs and culture, as these affect both the treatment and the client's response to treatment as well as appropriate psycho-educational and psychosocial training programmes. These programmes should focus on external stressors and internal demands (individual responses) in order to prevent individuals from developing psychological symptoms. A modernised mental health filing system in Gaza is essential and requires a substantive network system involving the Palestinian Authority, UNRWA and mediating NGOs.

7.9 **Conclusions**

The majority of Palestinian adult participants in this study had experienced and witnessed more war and siege related traumatic events, compared to adults in other countries living away from war or conflict. According to the DSM-IV, if one or more of the three main criteria for PTSD is present in the individual, then mental health can deteriorate. Ninety percent of the participants showed symptoms of PTSD comorbid with other psychiatric disorders. Clearly, war and siege has had a severe negative influence on the mental health of adults living in the Gaza Strip. In line with other adult PTSD studies, re-experiencing or intrusive memories, flashbacks and exposure to traumatic reminders are the strongest predictors of PTSD, as revealed in this study (Ehlers, Hackmann, & Michael, 2004). These findings were supported by war and post-conflict literatures which

indicated that civilians living in combat areas were more likely to be affected than their counterparts living away from them (Greenberg et al., 2015; Ogle, et al., 2013). The qualitative study established five main themes: Siege related stressful living conditions, war related traumatic event, psychological negative effects of war related, re-experiencing initial trauma through symbolism and or resemblance of original event(s) and coping strategy. This inculcated responses leading to physical symptoms including persistent headaches, sleep difficulties, fatigue, and lack of concentration, hypertension, diabetes, and epileptic bouts. Coping strategies including deep religious belief, fatalism based on that belief, family and societal support, as well as positive personality traits could alleviate psychological and somatic symptoms, strengthening participants' resilience to the consequences of war and the long-standing blockade.

7.10 Directions for Future Research

To overcome some of the limitations of this study, longitudinal studies are essential for strengthening the evidence base regarding optimal treatment approaches for adults. This could be a major step forward in the development of new treatment approaches for PTSD. In addition, combining structural clinical interviews with measurement scales could potentially yield useful and valid results, offering different perspectives on understandings of the prevalent rate of PTSD in war and conflict regions.

Further longitudinal research is needed to comprehend the effects of war and protracted blockade-related trauma, PTSD, depression and other comorbid mental illness, leading to the development of appropriate therapeutic and medical treatments, tailored towards the population needs. The outcomes of the current study indicate that

combining structural clinical interviews with measurement scales (self-reports) can yield valuable and valid results, such as cognitive behaviour therapy (CBT) for PTSD (Cusack et al., 2016; Ehlers et al., 2005), and EMDR therapy for PTSD (Shapiro, 1989) were recommended.

7.11 **Concluding remarks**

The three studies in this thesis have demonstrated that the continuous exposure to extreme traumatic experiences can result in psychological disorders reflected in the high prevalence rate of PTSD among Palestinian adults. This occurs as results of exposure to many traumatic experiences after years of war and blockade. PTSD, depression and general psychiatric morbidity were reflected in the prevalence of psychological and physical symptoms tested regarding the variables of age, gender, location, educational level, marital status and individual differences between both genders. The evidence collected from the participants in BDI-II Arabic version indicated that the prevalence rate of depression in both genders was related to traumatic experiences.

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Appendix A

Gaza Strip Map



Socio-Demographic and personal characteristics of the study participants (n=500).

Independent variables	N	%
Gender		
Male	213	42.6
Female	287	57.4
Age Range		
18-29 years	228	45.6
30-41 years	90	18.0
42 to 53 years	121	24.2
64+ above years	61	12.2
Social Status		
Single	220	44.0
Married	261	52.2
Divorced	6	1.2
Separated	4	.8
Widowed	9	1.8
Residence		
North	125	25.0
South	125	25.0
Gaza City	125	25.0
East	125	25.0
Education		
Primary	13	2.6
Secondary	56	11.2
High School	128	25.6
Vocational	28	5.6
College	59	11.8
University	201	40.2

Table 2.1: Diagnostic criteria for PTSD (DSM-5 2013)

Criterion A1: Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways:

1- Directly experiencing the traumatic event(s). 2- Witnessing, in person, the event(s) as it occurred to others. 3- Learning that the traumatic event(s) have occurred to a close family member or close friend. 4- Experiencing repeated or extreme exposure to aversive details of the traumatic event(s); *Note:* A4 does not apply to exposure through media such as television, movies or pictures, unless this exposure is work related.

Criterion B: ‘intrusion’ or ‘re-experiencing’ symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred in several ways: required one (or more) of the following symptoms:

1- Thoughts or perception. 2- Images. 3- Dissociative reactions (e.g., flashbacks episodes). 4- Intense or prolonged psychological distress or reactivity to cues that symbolize some aspect of the event. 5- Marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s)

Note: Unlike adults, children re-experience the event through repetitive play rather than through perception.

Criterion C: ‘Avoidance’ of stimuli associated with the trauma event(s) occurred after exposure to traumatic event(s) by the presence of one or both of the following:

1- Avoidance of thoughts, feelings or conversations associated with the event.
2- Avoidance of people, places or activities that may trigger recollections of the event.

Criterion D: ‘Negative alterations in cognitions and mood’ that are associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by 2 or more of the following: 1-Inability to remember an important aspect of the event(s). 2- Persistent and exaggerated negative beliefs about oneself, others or the world. 3-Persistent, distorted cognitions about the cause or consequences of the event(s). 4- Persistent negative emotional states. 5- Markedly diminished interest or participation in significant activities. 6- Feelings of detachment or estrangement from others. 7- Persistent inability to experience positive emotions.

Criterion E: ‘Marked alterations in arousal and reactivity’ associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following: 1- Irritable behavior and angry outbursts. 2- Reckless or self-destructive behaviour. 3- Hypervigilance. 4- Exaggerated startle response. 5- Concentration problems.

Table 2. 3: Diagnostic Criteria for Major Depressive Episode (DSM –IV TR, 2000)

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

Note: Do not include symptoms that are clearly due to a general medical condition, or mood-incongruent delusions or hallucinations.

(1) Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note:** In children and adolescents, can be irritable mood.

(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

(3) Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note:** In children, consider failure to make expected weight gains.

(4) insomnia or hypersomnia nearly every day

(5) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)

(6) fatigue or loss of energy nearly every day

(7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)

(8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)

(9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

B. The symptoms do not meet criteria for a Mixed Episode (see p. 365).

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).

E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

No	Event(Traumatic experience)	Never	Rarely	Sometimes	often	always
1	Do you experience images, flashbacks and memories that occurred to you during the war?					
2	Do you experience any disturbing dreams that remind you of war					
3	Did you get the feeling that what has happened in the war, is going to happen now and again (or play things that remind you of the war)?					
4	Did you experience a state of extreme distress when exposed to any difficult situations, internally or externally, that remind you of what happened during the war?					
5	Do you experience a state of anxiety, nervousness and tension (in the form of increased heartbeat or sweaty palms) when exposure to any position of external or internal difficulty that remind you of what it was like during the war?					
6	Do you avoid talking, thoughts and feelings that remind you of the traumatic experiences suffered during the war?					
7	Do you avoid people, places and situations that remind you of the traumatic experiences suffered during the war?					
8	Do you become unable to remember important things relating to the war and what has happened in traumatic events?					
9	Since being subjected to trauma during the war, have you been interested in: participating in social activities, going to school and various political posts?					
10	Do you feel alienated and separated from the people around you and that you do not have any connection with them?					
11	Do you feel as though you are unable to love those around you					
12	Do you feel like you have a bright future, in terms of your education, getting married and living a long life?					
13	About your sleeping: Is it hard to fall/stay sleep?					
14	Do you experience nervousness and states of a lot of anger					

15	Do you have difficulty in concentrating whilst doing your work?					
16	Do you feel constantly aware and expect the worst for what is going to happen next?					
17	Do you panic and feel startled abnormally when hearing any annoying voices of people speaking?					

Gaza Siege Checklist, (GCMHP, 2008).

Frequency Impact of Siege of Gaza items

The socio-demographic scale includes age, sex, marital status, education, and occupation, *Gaza Siege Checklist (GCMHP, 2008)*. This checklist consisted of 21 items covering a wide range of daily life situation affected by Gaza Siege including the family, health, education, social life, and economic issues. Please, read carefully each item of the following sentences. Be as honest and accurate as possible to answer all questions.

Use the following scale to help guide your answers: [**Yes or No**] and write an [**X**] in the boxes where appropriate.

No	items	Yes	No
1.	Prices are sharply increased		
2.	I feel I am in a big prison		
3.	I cannot find things I need in the market		
4.	I quitted some purchased daily needs		
5.	Social visits are less than before		
6.	I cannot find some of the necessary things for my children (Milk, baby napkins, etc.)		
7.	I cannot finish some construction and repair work in my house due to shortage of cement and building materials		
8	My work affected so much due to cut-off of electricity		
9	My monthly income decreased		
10	My work affected so much due to shortage of fuel, papers, medicine, row materials		
11	I was not able to reach a place I planned to go to		
12	I sold some of my furniture and wife gold.		
13	I thought of immigration		
14	I was not able to get specific medicine for me or for one of the family member		
15	I need to travel outside the Gaza Strip and can not		
16	I stopped completely working		
17	I had suffering of not able to receive proper medical care		
18	I was prevented from visiting one of the family members in Israelis jails		
19	I went to Zaka organizations and other organizations to get the food		
20	I started doing the papers for immigration		
21	One of the family member died due to prevention of traveling for treatment		

Gaza Seige Checklist Result**Tables 5.3:** Factor loadings for each PTSD item for frequency and severity domains

No	Traumatic events	No		Yes	
		N	%	N	%
1	Prices are sharply increased	63	12.6	437	87.4
2	I feel I am in a big prison	88	17.6	412	82.4
3	I cannot find things I need in the market	211	42.2	289	57.8
4	I quitted some purchased daily needs	231	46.2	269	53.8
5	Social visits are less than before	136	27.2	364	72.8
6	I cannot find some of the necessary things for my children (Milk, baby napkins, etc.)	339	67.8	161	32.2
7	I cannot finish some construction and repair work in my house due to shortage of cement and building materials	197	39.4	303	60.6
8	My work affected so much due to cut-off of electricity	122	24.4	378	75.6
9	My monthly income decreased	160	32	340	68
10	My work affected so much due to shortage of fuel, papers, medicine, row materials	162	32.4	338	67.6
11	I was not able to reach a place I planned to go to	250	50	250	50
12	I sold some of my furniture and wife gold.	353	70.6	147	29.4
13	I thought of immigration	271	54.2	229	45.8
14	I was not able to get specific medicine for me or for one of the family member	339	67.8	161	32.2
15	I need to travel outside the Gaza Strip and can not	213	42.6	287	57.4
16	I stopped completely working	373	74.6	127	25.4
17	I had suffering of not able to receive proper medical care	328	65.6	172	34.4
18	I was prevented from visiting one of the family members in Israelis jails	439	87.8	61	12.2
19	I went to Zaka organizations and other organizations to get the food	439	87.8	61	12.2
20	I started doing the papers for immigration	453	90.6	47	9.4
21	One of the family member died due to prevention of traveling for treatment	438	87.6	62	12.4

General Health Questionnaire-28**(Arabic version - GHQ-28)****Translated and carried out in the Palestinian environment****By Abid Al Aziz Thabet****Please read this questionnaire carefully,**

I would like to know if you have experienced any health problems in the past few weeks. Please answer all questions. Be as honest and accurate as possible to answer all questions.

Use the following scale and please indicate your response by placing an [X] in the space where appropriate. It is important that you answer all the questions.

0 **1** **2** **3**
No never **less than usual** **Worse than usual** **Much worse than usual it**

No	Item	No	less than usual	Worse than usual	Much worse than usual it
1	Do you feel as though you are in good health?				
2	Do you feel as though you may need health supplements?				
3	Do you often feel tired or fatigued?				
4	Do you feel unwell?				
5	Do you experience headaches?				
6	Do you feel any pressure in your head?				
7	Do you occasionally feel a sudden change in temperature either cold or hot in your body?				
8	Do you experience any difficulty sleeping due to any worries?				
9	Do you find it difficult to go back to sleep when you have woken up during the night?				
10	Do you feel like you are under pressure?				
11	Do you get angry quickly and do you experience a lot of bad moods?				
12	Do you feel as though you are scared and frightened for no reason?				

13	Do you feel as though you are carrying the whole weight of the world on your shoulders?				
14	Do you constantly feel anxious and nervous?				
15	Do you feel as though you are able to make yourself busy?				
16	Do you feel that you take a long time to do certain things?				
17	Do you feel satisfied with the work that you do?				
18	Do you feel positive about the work that you do?				
19	Do you feel that you play a beneficial role in the events that you are part of?				
20	Do you feel that you are able to make decisions?				
21	Do you feel that you are happy with the daily activities that you do?				
22	Do you get thoughts that make you feel useless?				
23	Do you feel that life is worthless and there is no hope?				
24	Do you feel that there is no point in living?				
25	Do you get thoughts that you are better off being alone?				
26	Do you get moments that you feel as though you can't do anything because you are nervous?				
27	Do you wish to be dead and away from everything				
28	Do you get suicidal thoughts?				

1-7 8-14 15-21 22-28

Beck Depression Inventory BDI-II

(Arabic version - BDI-II)

20	I am worried about my health				
21	I have lost interest in women				

Arabic versions

CPTSD- RI Scale according to DSM-IV

مقياس الاضطرابات النفسية الناتجة عن خبرة صادمة

ترجمة / د. عبد العزيز ثابت

عزيزي / عزيزتي

الأسئلة التالية تصف التغيرات التي حدثت في صحتك ومشاعرك خلال الفترة السابقة. من فضلك أجب علي كل الأسئلة. وشكرا لتعاونك/ي

5 4 3 2 1
دائما غالبا حيانا نادراً لا

رقم	أعراض الخبرة الصادمة	لا	نادر	أحياناً	غالبا	دائماً
1	هل تتنابك صور , ذكريات , وأفكار عن الخبرة الصادمة					
2	هل تتنابك أحلام مزعجة عن الخبرة الصادمة					
3	هل تتنابك مشاعر فجائية أو خبرات بأن ما حدث سيحدث مرة أخرى					
4	هل تتضايق من الأشياء التي تذكرك بما تعرضت له من خبرة صادمة					
5	هل تتجنب المواقف أو المشاعر التي تذكرك بالخبرة الصادمة					
6	هل تتجنب الأفكار أو المشاعر التي تذكرك بما تعرضت له من خبرة صادمة					
7	هل لديك فقدان للذاكرة للأحداث الصادمة التي تعرضت لها					
8	هل لديك صعوبة في الاستمتاع بالحياة والنشاطات اليومية					
9	هل تشعر بالعزلة وبأنك بعيد عن الآخرين					
10	هل تشعر بعدم الحب والانبساط					
11	هل أنت غير قادر علي الشعور بمشاعر الحزن والفرح					
12	هل تجد من الصعوبة التخيل بأنك ستعيش لفترة طويلة لتحقيق أهدافك في الحياة					
13	هل لديك صعوبة في النوم أو البقاء نائماً					
14	هل تتنابك نوبات من التوتر والغضب					
15	هل تعاني من صعوبات في التركيز					
16	هل من السهل أن يشتت انتباهك					
17	هل تستثار من أتفه الأسباب ودائماً مستفز					

Frequency Impact of Siege of Gaza items

Gaza Siege Checklist (GCMHP, 2008)

Arabic copy

قائمة الخبرات الصادمة عن حصار غزة

المقياس الاجتماعي والتوزيع السكان يهتم بقياس الآثار المترتبة على الحصار وأثرها على الحياة الاجتماعية اليومية. ويهتم أيضاً بقياس العمر، الجنس، الحالة الزوجية، محل الإقامة، والمستوى التعليم والاحتلال. يتألف مقياس قائمة غزة هذا المقياس من 21 حدث تشمل كافة الأوضاع المؤلمة بسبب الحصار الذي يشمل نظام العائلة، والتعليم الحياة الاجتماعية، ومشكلة الوضع الاقتصادي العام.

أمامك مجموعة من الأحداث اليومية الصادمة بسبب الحصار المفروض على سكان كل سكان غزة يومياً. لو سمحت أجب عن الأحداث التي أمامك في القائمة بشكل دقيق إن أمكن.

وضع دائرة حول (نعم) أو (لا) إذا تعرضت لمثل هذه الظروف الصعبة.

م	الحدث (الخبرة الصادمة)	نعم	لا
1	ارتفاع الأسعار بشكل سريع		
2	أشعر بأنني في سجن كبير		
3	لم أستطع الأشياء التي أحتاجها في السوق		
4	لم أوقفت شراء بعض السلع الضرورية التي أحتاجها يومياً		
5	الزيارات الاجتماعية أقل مما كانت عليه سابقاً		
6	لم أستطع توفير بعض الحاجيات الضرورية لأولادي (مثل الحليب وحفاضات الأطفال)		
7	لم أستطع إعادة تصليح وبناء بيتي نتيجة نقص في مواد البناء كالإسمنت.		
8	عملي تأثر كثيراً نتيجة إلى إنتقطاع التيار الكهربائي.		
9	دخلني الشهري إنخفض.		
10	عملي تأثر كثيراً نتيجة لنقص في البنزين والسولار، الورق، العلاج والمواد الخام		
11	لم أتمكن من وصل أي مكان كنت أريد (أنوي) الذهاب إليه.		
12	لقد بعث بعض عفش البيت و ذهب الزوجة.		
13	فكرت في الهجرة الي الخارج.		
14	لم أتمكن من توفير علاجي الخاص أو الي أي فرد من أفراد الأسرة.		
15	أرغب في السفر خارج قطاع غزة ولكن لم أستطع.		
16	توقفت كلياً عن العمل.		
17	أعاني لعدم قدرتي في الحصول على الرعاية و العلاج المناسب.		
18	كنت قد منعت من زيارة أحد أفراد العائلة في السجون الإسرائيلية.		
19	ذهبت أطلب المساعدة من دائرة الزكاة للحصول على طعام.		
20	أنا بدأت في تجهيز أوراقتي لتقديم طلب الهجرة.		
21	أحد أفراد العائلة مات بسبب منعة من السفر للخارج لتقي العلاج.		

General Health Questionnaire GHQ-28

إستبيان الصحة العامة (28)

ترجمة وتقنين على البيئة الفلسطينية

أ.د. عبد العزيز موسى ثابت

استاذ الطب النفسي - كلية الصحة العامة - جامعة القدس

الأسم _____ الجنس _____ العمر:

العنوان _____

الباحث الميداني ١ ١

التاريخ:

عزيزي، تي

من فضلك أقرأ مايلي بتمعن

نحن نرغب في أن نرى إذا كانت لديك أى مشاكل طبية وكيف كانت صحتك فى الاسابيع القليلة الماضية

من المهم أن تجيب على كل الاسئلة . شاكرين لك تعاونك معن

من فضلك أجب على كل الاسئلة التى تنطبق عليك الموجوده فى مربع الاجابه بأن تضع علامه

X

4 أسوأ بكثير من العادة 3 أسوأ من العادة 2 أقل من العادة 0 لا أبدا

البيان	لا أبدا	أقل من العادة	أسوأ من العادة	اسوأ كثير من المعتاد
1 هل تشعر بأنك معافى وبصحة جيدة؟				
2 هل تشعر بأنك فى حاجة الى مقويات جيدة؟				
3 هل تشعر بأنك تعبان ومرهق؟				
4 هل تشعر بأنك مريض؟				
5 هل تشعر بصداغ؟				
6 هل تشعر بشد وضغط فى رأسك؟				
7 هل تشعر بنوبات من الحرارة والبروده فى جسمك؟				
8 هل تنام قليلا لانك قلقان؟				

				هل تشعر بصعوبة للعودة للنوم عند ماتصحو في الليل؟	9
				هل تشعر بأنك واقع تحت ضغط نفسي؟	10
				هل تنترفز بسرعه ومزاجك متعكر؟	11
				هل تشعر بأنك خائف ومرعوب بدون سبب؟	12
				هل تشعر بأنك تحمل هموم الدنيا على أكتافك؟	13
				هل تشعر بأنك قلقان ومتوتر طوال الوقت؟	14
				هل تشعر بأنك قادر على الهاء نفسك بأشياء معينه؟	15
				هل تشعر بأنك تأخذ وقت طويل لعمل اشياء تعملها؟	16
				هل تشعر بالرضا عن أفعالك وأعمالك؟	17
				هل تشعر بأنك تقوم بدور فعال في العمل؟	18
				هل تشعر بأنك تلعب دور مفيد في الاشياء التي تقوم بها؟	19
				هل أنت قادر على اتخاذ قرارات؟	20
				هل تشعر بأنك قادر على الاستمتاع بنشاطاتك اليوميه؟	21
				هل تتنابك افكار بأنك لافائد ه منك؟	22
				هل تشعر بأن الحياه لاتساوى شيئاً وبدون أمل؟	23
				هل تشعر بأن الدنيا لاتساوى العيش فيها؟	24
				هل تتنابك أفكار بأن من المحتمل بأنك تستطيع الأختلاء بنفسك؟	25
				هل تجد اوقات لاتستطيع أن تفعل أى شيء لأن اعصابك مش كويسه؟	26

				هل تتمنى بأن تكون ميتاً وبعيداً عن كل شيء؟	27
				هل لك افكار انتحاريه للتخلص من حياتك ؟	28

المجموع

-د-

-ج-

-ب-

-أ-

Beck Depression Inventory BDI-II
(Arabic version - BDI-II)

قائمة بيك لقياس الاكتئاب

تعليمات : أمامك قائمة مشكلات وصعوبات يعاني منها الناس أحيانا ، إقرأ /ي بتمعن كل جملة من الجمل التالية ثم ضع علامة X حول الإجابة التي تلائمك .

لا (0) قليلا (1) أحيانا (2) كثيرا (3)

1	أشعر بالحزن	(0) لا	(1) قليلا	(2) أحيانا	(3) كثيرا
2	أنا غير متفائل بالمستقبل				
3	أشعر وكأنني فاشل				
4	أشعر بعدم الرضى				
5	أشعر بالذنب				
6	أشعر وكأنني مُعاق				
7	أشعر بخيبة أمل				
8	أنتقد نفسي / ألوم نفسي				
9	تراودني أفكار لقتل نفسي				
10	أنا أبكي				
11	أشعر بالغضب / الانزعاج				
12	فقدت الاهتمام بالآخرين				
13	يصعب علي اتخاذ القرارات				
14	أنا غير جذاب , (بشع) .				
15	لا أستطيع العمل				
16	لا أستطيع النوم				
17	أشعر بالارهاق كثيرا عندما أعمل شيئاً				
18	أعاني من فقدان الشهية				
19	لقد خسرت من وزني				
20	أنا قلق على صحتي				
21	فقدت الاهتمام بالجنس الأخر				

Appendix BMean Ages and Standard Deviations of Participants ($n=17$)

Participants	Gender	Age group	Mean age yrs.	SD
(n=12)	Male		43	14.96
(n=5)	Female		38	6.63
(n=1)		18-25 yrs.	5.9%	
(n=4)		26-35yrs	23.5%;	
(n=6)		36-45yrs	35.3%	
(n=4)		46-55yrs	23.5%	
(n=17)		18-65+ yrs.	42	12.65
total from			100	

Participant's socio-demographic characteristics

No.	Gender	Age	Marital status	Educational level	occupation
1	Male	61	married	secondary	Shop owner
2	Male	49	married	college	city of Gaza council
3	Male	54	married	secondary	private business
4	Male	56	married	college	Unemployed
5	Male	57	married	primary	Unemployed
6	Male	30	married	Bachler degree	Unemployed
7	Male	28	married	college	Government work
8	Male	55	married	secondary	private business
9	Male	54	married	Postgraduate	University lecturer
10	Male	24	married	Bachler degree	social worker
11	Male	32	married	Bachler degree	Teacher
12	Male	26	married	Bachler degree	Teacher
13	Female	37	married	Secondary	Housewife
14	Female	27	married	secondary	Housewife
15	Female	40	Widowed	Primary	Housewife
16	Female	43	married	Bachler degree	Housewife
17	Female	43	Widowed	secondary	Housewife

Qualitative study (study 3)
Semi- structured interview questioner

This interview asked you about your experiences of day-to-day living in the Gaza Strip. Be as honest and accurate as possible to answer all questions. It is important that you answer all the questions.

The interview questions:

1. To begin, how does it feel to live in the Gaza Strip?
 Could you please, give me one or more examples of the situation in Gaza?
 Are there beautiful things that make you like to live in Gaza?
 Are there any things that make you not want to live in Gaza?
 If yes:
 What are they?
2. Is there another unpleasant event you have been exposed to, which you would like to tell me about?
 If yes:
 Please, describe one of these events?
 Has it made you feel anxious?
 How did it affect you?
 How did you cope with this situation?
 And, is there anything else you want to tell me about?
 Can you describe it?
 Is there another event you want to describe it to me?
3. Do the feelings/thoughts you have affect you?
 If yes:
 What are they?
 Please, tell me how it affects you?
 How do you cope with these feelings?
4. Have you been injured and/or witnessed and/or helped injured persons, or have you felt helpless at the times?
 If yes:
 Tell me about it?
 How has it affected you?
 Please, describe one event?
 Do these events worry you?
 Is there another event you want to describe to me?
 How did you cope with this situation?
5. What kind of situations makes you feel distressed or anxious?
 If yes:
 What are they?
 Could you describe it to me?
 When did that happened to you,
 How do you overcome your stress and the anxiety?
6. Do you have frequent thoughts/ flashback/nightmares or any feelings towards the traumatic event?
 If yes:
 What are they?
 Please tell me how does this affect your day-to-day life activities?
 In what way does this affect you?
7. Do you have any recurrent distressing experiences you would could to tell me?

If no:

Do you have any difficulties in the past you could tell me about it?

If yes:

What sort of difficulties do you think you have?

Does this affect you and make you feel anxious?

Could you please give me an example?

How do you cope with distressing experiences?

8. Now, I want to ask you a few questions about your sleep:

Tell me: Is it hard to fall/staying asleep?

Do you have dreams or nightmares?

If yes:

Tell me about them?

Does this affect you?

9. Have you previously been treated for any psychiatric disorders?

If yes:

Please tell me about it?

Does this affect your relationship with others?

If yes (to the above):

Please describe how it has affected?

10. Do you suffer from any physical illnesses?

If yes:

What are they?

Do you take any medication?

If yes:

Does this medication affect you? How?

11. Have you tried to avoid talking about your thoughts and feelings related to the traumatic event?

If yes:

Please tell me about it?

How does this affect you?

Describe how you cope?

12. What were your hobbies, sport/fitness activities before and after you were exposed to the traumatic event?

What were they?

Tell me when and how your activities have changed?

How do you feel about these changes?

Tell me about your hobbies, have they changed?

13. What is your view on the future and life in general; are you optimistic or pessimistic?

Tell me about your views?

What makes you feel pessimistic?

Please, describe how you cope on a regular basis?

14. Could you tell me about your relationships with family, friends and work colleagues?

Could you please describe these?

Have you received any support from family, friends or anyone else?

If yes:

What sort of support was received?

15. Is there anything else you would like to add, which has not been discussed earlier?

Why?

How do you feel about it?

If you want to know about the over findings, please do not hesitate to contact me or the supervisor for this study if you have any questions.

Thank you for your cooperation.

Arabic copy

Semi- structured interview in Arabic version questioner

المقابلة شبه المنظمة

مرحباً: أولاً أريد أن أشكرك على موافقتك بالمشاركة في هذه المقابلة. الغرض من هذه المقابلة: هي محاولة للتعرف على كيف يتكيف أو يتعامل الناس في حياتهم اليومية في قطاع غزة، على سبيل المثال: في الأسرة - مع الأقارب- الجيران - مع الأصدقاء - زملاء العمل - في المجتمع الذي يعيشون فيه... الخ. ملخص الحالة:

العمر
الجنس ذكر () أنثى () الحالة الزوجية: أعزب () متزوج () مطلق () منفصل ()
أرمل () المستوى العملي: ابتدائي () متوسط () ثانوي () معهد () كلية () جامعة ()
ماجستير () دكتوراة () بروفيسور () .

مكان الولادة: () هل سبق لك أن عشت خارج قطاع غزة؟ نعم / لا . إذا كان نعم: كم المدة التي قضيتها في الخارج؟ () .

المقابلة

أسئلة المقابلة:

- 1- في البداية: ما هو شعورك أو كيف تشعر وأنت تعيش في قطاع غزة؟ من فضلك، أعطني مثال واحد أو أكثر إن أمكن عن الأوضاع في غزة؟ هل هناك أشياء جميلة تجعلك تحب أن تعيش في غزة؟ هل هناك أي أشياء تجعلك لا ترغب أو لا تحب أن تعيش في غزة؟ إذا نعم: ما هي تلك الأشياء؟
- 2- هل تعرضت في يوم من الأيام الى أي حادث مؤلم/ غير سار؟ إذا نعم: من فضلك، ووصف لي واحدة من هذه الأحداث المؤلمة غير السارة؟ هل هذا جعلك تشعر بالقلق؟ كيف أثرت عليك هذه الأحداث؟ كيف تعاملت أو تكيفت معها؟ أو، هل هناك أحداث أخرى تريد أن تقولها لي؟ هل هناك حدث معين تريد أن تصفه لي؟
- 3- هل تشعر بأن لديك مجموعة أفكار أو مشاعر تعتقد أنها تؤثر عليك؟ إذا نعم: ما هي؟ من فضلك، قل لي كيف هذه المشاعر أو الأفكار تؤثر عليك؟
- 4- هل سبق لك أن أصبت أو شاهدت أو ساعدت أشخاص مصابين، أو أنك شعرت غير قادر على مساعدتهم في ذلك الوقت؟ إذا نعم: من فضلك، أحك لي عن ذلك إن أمكن؟ كيف أثرت عليك تلك الأشياء؟ من فضلك، ووصف حادثة واحدة من تلك الأحداث التي أثرت عليك مباشرة؟ هل هذه الأحداث جعلتك قلق؟ هل هناك حدث معين تريد أن تصفه لي؟
- 5- ما هي الظروف أو الأوضاع التي تجعلك تشعر بالضغط النفسي أو القلق؟ إذا نعم: ما هم؟ هل لك أن تصفهم لي؟ متي حدث لك هذا؟

- كيف تتغلب على مشاعر و القلق وحالات الضغط النفسي الذي تنتابك؟
 6- هل تنتابك أو تتردد عليك أفكار أو صور من ذكريات الماضي أو كوابيس أثناء النوم أو أي أحاسيس أخرى متكرره ومرتبطة بحادث مؤلمة؟
 إذا نعم:
 ما هم، وهل لك أن تذكر لي بعضاً منها؟
 قل لي لو سمحت، ما هو نوع أو شكل هذه التأثيرات التي لديك، وكيف تتعامل مع هذه الأشياء في حياتك اليومية؟
 من فضلك، قل لي كيف تؤثر هذه الأشياء على أعمالك اليومية مثلاً: (في البيت، المدرسة، العمل، الأصدقاء الخ)؟
 7- هل عندك أي خبرات أو تجارب مؤلمة، وتحدث لك بصفة متكررة تريد أن تقولها لي؟
 إذا لا:
 هل كان لديك أي صعوبات في الماضي تريد أن تحكي لي عنهم؟
 إذا نعم:
 ما هي هذه الصعوبات التي تعتقد أنها عندك؟
 هل هذه تؤثر عليك وتجعلك تشعر بالقلق؟
 إذا كان كذلك، هل لك أن تعطيني مثال أو أكثر عن هذه الصعوبات: لو سمحت؟
 كيف تتكيف أو تتعامل مع هذه الأحداث المؤلمة؟
 8- الآن، أريد أن أسألك عن نومك: قل لي من فضلك:
 هل تنام بصعوبة أم بسهولة؟
 هل لديك أحلام أو كوابيس؟
 إذا نعم:
 إحكي لي عنهم، لو سمحت؟
 هل هذا يؤثر عليك؟
 كيف؟
 9- هل تعالجت سابقاً من أي أمراض نفسية؟
 إذا لا:
 هل فكرت في لحظة ما أن تطلب مساعدة من أي معالج نفسي؟
 إذا نعم:
 من فضلك، إحكي لي عن ذلك؟
 هل هذا أثر على علاقاتك مع الآخرين؟
 إذا كان كذلك:
 لو سمحت، إوصف لي كيف تأثرت علاقاتك؟
 10- هل تعاني من أي مشاكل صحية؟
 إذا نعم:
 ما هي؟
 هل تأخذ أي علاج؟
 هل هذا يؤثر عليك؟
 إذا كان كذلك:
 كيف؟
 11- هل حاولت تجنب الحديث عن مشاعرك أو أفكارك المرتبطة بالحدث المؤلم؟
 إذا نعم:
 من فضلك، أخبرني عن ذلك؟
 كيف يؤثر هذا عليك؟
 أوصف لي كيف تتعامل أو تتكيف مع هذه المشاعر أو الأفكار الضاغطة؟
 12- ما هي هوياتك أو أنشطتك الرياضية المفضلة، قبل و بعد تعروضك للحدث المؤلم؟
 ما هي؟
 أخبرني: متى تغيرت هذه الأنشطة؟
 كيف تغيرت هذه الأنشطة؟
 كيف تشعر حول هذه التغيرات؟
 أخبرني عن هوياتك، كيف تغيرت؟
 13- كيف ترى المستقبل من وجهة نظرك، وكذلك الحياة بوجه عام:

- هل أنت متفائل أم متشائم؟
أخبرني عن ذلك، من فضلك؟
ما الذي يجعلك تشعر بأنك متشائم؟
من فضلك، أخبرني كيف تكيف وضعك بشكل إعتيادي مع وجود مثل هذه المشاعر والأفكار التي تشعر بها؟
- 14- هل لك أن تُخبرني عن طبيعة علاقاتك الإجتماعية: مع الأسرة، الأصدقاء وزملاء العمل؟
من فضلك إوصفها لي؟
هل تحصل على أي دعم أو مساعدة من العائلة أو الأصدقاء أو أي شخص آخر؟
إذا نعم:
هل لك أن تصف لي ما هو نوع هذا الدعم أو المساعدات التي تتلقاها؟
- 15- هل هناك شيء آخر كنت تريد أو ترغب أن تقوله، لم يتم مناقشته سابقاً؟
إذا كان لديك أي إستفسار أو إذا كنت تريد أن تعرف عن نتائج هذه المقابلة، الرجاء: لا تتردد في الإتصال بي أو المشرف العام على هذه الدراسة.
أشكرك على حسن تعاونك معنا

Table 6. 4: The key constructs of the Transaction Model of Stress and Coping (Glanz et al., 2008, p. 214)

<i>Concept</i>	<i>Definition</i>
Primary Appraisal	Evaluation of the significance of a stressor or threatening event.
Secondary Appraisal	Evaluation of the controllability of the stressor and a person's coping resources.
Coping efforts	Actual strategies used to mediate primary and secondary appraisals.
<i>Problem management</i>	Strategies directed at changing a stressful situation.
<i>Emotional regulation</i>	Strategies aimed at changing the way one thinks or feels about a stressful situation.
Meaning-based coping	Coping processes that induce positive emotion, which in turn sustains the coping process by allowing re-enactment of problem- or emotion focused coping.
Outcomes of coping	Emotional well-being, functional status, health behaviours.
Dispositional coping styles	Generalized ways of behaving that can affect a person's emotional or functional reaction to a stressor; relatively stable across time and situations.
<i>Optimism</i>	Tendency to have generalized positive expectancies for outcomes.
<i>Information Seeking</i>	Attentional styles that are vigilant (monitoring) versus those that involve avoidance (blunting)

Six phases of the thematic analysis description of the process

No.	Phase	Description of the process
1	Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas
2	Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3	Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4	Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5	Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6	Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

A 15 - point checklist of criteria for good thematic analysis devised by Braun and Clarke (2006, p. 96) as followed:

Process	No.	Criteria
Transcribing	1	Transcription: The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'
	2	Coding: Each data item has been given equal attention in the coding process.
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for all each theme have been collated.
	5	Themes have been checked against each other and back to the original data set.
	6	Themes are internally coherent, consistent, and distinctive.
	7	Analysis: Data have been analysed / interpreted, made sense of / rather than just paraphrased or described.
	8	Analysis and data match each other / the extracts illustrate the analytic claims.
	9	Analysis tells a convincing and well-organized story about the data and topic.
	10	A good balance between analytic narrative and illustrative extracts is provided.
overall	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.
Written report	12	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13	There is a good fit between what you claim you do, and what you show you have done _/ ie, described method and reported analysis are consistent.
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15	The researcher is positioned as active in the research process; themes do not just 'emerge'.

General Framework - Code Categories

No. Cate.	Factors
C1	war and blockade related stressful, living condition is difficult and stressful situation to live in the Gaza Strip: war, occupation, siege continuous threat, unexpected Israeli's attack and death, economic situations high rate of unemployment
C2	Exposure to traumatic event(s): exposed to traumatic event, Israeli army attacked, houses demolish, death, imprisonment, injuries and arrested.
C3	Psychological and emotional problems: Anxiety, Stress and anxiety, Anxious and distressed, severe depression, worry, sleep difficulties, frequent nightmare, feelings and thoughts; images include aggressive behaviour, confused, loss of control frustration.
C4	Re-experienced, re-symbolize in behavioural patterns. Symbolizing traumatic events: included, a war plan drone, sound, hearing, watching sad story on TV, a sense of reliving the traumatic event again. Avoiding people, conversation, places, thoughts, and feelings, loss of interest and/or loss of hope. Sleeping difficulty intense memories, flashbacks, nightmares, negative feelings, intense affecting all aspects of life. irritability, persistent symptoms increased arousal, lack of concentration, hypervigilance and startled
C5	Coping strategies and resilience: Motivated by religion, beliefs in fate and fatalism, pray, patience and resilience: Pray, reading Qur'an and patience, hopes and desire, the patriotic sense and attachment,
C6	Experiencing traumatic event, injury, witnessed traumatic event, frequent feelings, thoughts, flashbacks, nightmares, and sleep difficulties
C7	coping with adapting the situation as it is, avoidance, isolation, keep work and by passing time
C8	Psychosocial support: family support, extended family support, friends, relatives', neighbors, community and social ties and support
C9	The relationships with the family, friends and colleague at work
C10	social support received: psychological and emotional support
C11	Physical illness and Medication: Hypertension, diabetes and migraines
C12	Hobbies: hobby fond after traumatic events and feel satisfied
C13	feel pessimistic lost trust of other just trust in God

Letter from CTCCM:**To recruit participants in Gaza (qualitative study)****Dear Dr's**

I am Professor Fadel Abu Hein psychologist, consultant, and the director of "Community Training Centre and Crisis Management (CTCCM) Gaza Palestine," will help Mr. Talal El-Deeb to recruit participants in Gaza, for the purpose of the proposed interview, which is "Exploring the experience of adults living in Gaza." I will be the main person who will be responsible for any potential consequences the interviews, might have, and our centre will take care of him/her.

If you need any further information, please do not hesitate to contact us.

Yours sincerely,

Professor: Fadel Abu Hein

Psychologist and Consultant

Director of Community Training Center and Crisis Management (CTCCM)

Gaza Palestine

Email: fabuhein@yahoo.com

Or go to www.ctccm.ps

Participant Consent form (qualitative study)

Participant identification Number for this study:

Name of the investigators: Talal El-Deeb

1- I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily.

2- I understand that my participation is voluntary and that I am free to Withdraw at any time without giving any reason, without my mental health or legal rights being affected

3- I understand that all information collected during the study and will be confidential in secure locker.

4- I agree to take part in the above study

Name of participant

Date: //

Signature

--

Name of person taking consent
(If different form researcher)

Date: //

Signature

Name of researcher

Talal El-Deeb

Arabic copy

Consent form (qualitative study)

ورقة التعهد المسبق

عنوان الدراسة: استكشاف الخبرات النفسية لدى البالغين الذين يعيشون في قطاع غزة
تطلب جامعة برونال قسم علم النفس من كل شخص يرغب المشاركة في الدراسات النفسية أن يُوقع تعهداً مكتوباً، يتعهد فيه الشخص
بالموافقة المسبقة للمشاركة في هذه الدراسة.
من فضلك اقرأ التعهد التالي وإذا وافقت على ما جاء فيه وقع هذا التعهد.
أنا الموقع أدناه بمحض إرادتي ورغبتني وتطوعاً مني أرغب في أن أشارك في هذا البحث وهو بعنوان: "استكشاف الخبرات النفسية لدى
البالغين الذين يعيشون في قطاع غزة" والذي سوف يقوم بتطبيقه الباحث الرئيسي/ طلال الديب
الهدف الرئيسي من موضوع هذا البحث هو التعرف على كيف تتأقلم أو تكيف ظروف حياتك وأنشطتك اليومية في قطاع غزة، على
سبيل المثال: مع الأهل، الأصدقاء والمجتمع الذي تعيش فيه. مدة هذه المقابلة لاتعد أكثر من 60 دقيقة.
لقد تم إبلاغي من قبل الباحث بأن المقابلة سوف يتم تسجيلها صوتياً وسوف تحفظ في مكان آمن جداً. وأنني على علم بأنه بإمكانني
أن انسحب من المقابلة، وفي أي وقت حتى أثناء المقابلة، وذلك إذا شعرت بأنني غير راغب أو غير قادر على الإستمرار في المقابلة، وأن أترك
المقابلة بدون أي عواقب سلبية ناتجة عن هذه المقابلة. لذا، فإن مشاركتي في هذه المقابلة هو عملاً تطوعياً خالصاً، وإن إنجابي هذا لا
يُسبب لي أي جزاء عقابي سواء أدبياً أو خلاقياً أو أي جزاء آخر .
وأنه تم إعلامي بأن اسمي سوف لا يُذكر أو يظهر من خلال مواد البحث. في هذا البحث نحن كباحثين مهتمون بتقييم مستوى إنتشار
الإضطرابات النفسية بصفة عامة – بمعنى: ليست بالضرورة أن يكون المشارك مصاباً بصدمة نفسية. كما أنه أعطي لي الحق كمشارك أن أسأل
أسئلة تتعلق بإجراءات المقابلة، وتكون الإجابة عن أسئلتي مقنعة ومرضية لي .
ولقد أقرَ الباحث، بأنه إذا كان عندي أي إستفسار عام بخصوص هذا البحث، أو بالقضايا الأخلاقية المتعلقة بهذا البحث، ألا أتردد في
الإتصال بالسيد/ طلال الديب على عنوانه الإلكتروني التالي : talal.el-deeb@brunel.ac.uk
وكذلك إذا كان لدي أي مخاوف أو شكوى تتعلق بالإجراءات التي طُبِقَ فيها البحث، أنه بإمكانني الإتصال بأحد المشاركين الرئيسيين في اللجنة
القانونية في قسم علم النفس وهم: البروفيسور تايكو وفيدل على البريد الإلكتروني التالي :

taeko.wydell@brunel.ac.uk

أو دكتورة تارا مارشال على البريد الإلكتروني التالي:

tara.marshall@brunel.ac.uk

لقد قرأت وفهمت ما جاء أعلاه، وبناءً عليه: أوافق على أن أشارك في هذه الدراسة، وتوقعي ليست مستثنأ من أي حقوق قانونية. علاوة
على ذلك، أدرك أنه بإمكانني أن أحتفظ لنفسني بنسخة من استمارة الموافقة المسبقة.

التاريخ

الإسم

توقيع المشارك

لقد شرحت وحددت بالتفصيل إجراءات البحث وبناءً عليه وأفق الشخص الذي أسمه أعلاه بالمشاركة. وعلاوة على ذلك، سوف أحتفظ
لنفسني بنسخة من ورقة الموافقة المسبقة

التاريخ

الإسم

توقيع الباحث الرئيسي

Participant Consent form: (quantitative study)

Title of study: "Predictors of post-traumatic stress disorder, anxiety, and depression among adults living in the Gaza Strip".

Participant identification Number for this study:

Name of the investigators: Talal El-Deeb

1- I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily.

2- I understand that my participation is voluntary and that I am free to Withdraw at any time without giving any reason, without my mental health or legal rights being affected

3- I understand that all information collected during the study and will be confidential in secure locker.

4- I agree to take part in the above study

Name of participant

Date: //

Signature

--

Name of person taking consent

Date: //

Signature

(If different form researcher)

Name of researcher

Talal El-Deeb

Arabic copy**Participant Consent form: (quantitative study)**

نموذج موافقة الشخص المشارك: الدراسة الكمية

عنوان الدراسة: التعرف على مدا إنتشار إضطراب الضغوط التالية للأحداث الصادمة بين البالغين الذين

يعيشون في قطاع غزة

رقم الشخص المشارك:ة:

سم الباحث:

1 - أنا أقر بأنني قرأت وفهمت المعلومات والتعليمات المتعلقة بالباحث الحالي. أنا فهمت بأن مشاركتي في الإجابة عن الأسئلة ستكون بحسب فيهمي وقناعتي الشخصية.

2- أنا فهمت بأن مشاركتي في هذا البحث وهو عمل تطوعي، ولدي الحرية في الإنسحاب في أي وقت أريده دون أي ضغوط أو إظهار أي سبب عند إنسحابي من البحث. وإن إنسحابي هذا لا يسبب لي أي جزاء عقابي سواء أدبياً أو خلاقياً أو أي جزاء آخر.

- وأن أترك المقابلة بدون أي عواقب سلبية ناتجة عن هذه المقابلة.

- وأنه تم إعلامي بأن إسمي سوف لا يُذكر أو يظهر من خلال مواد البحث.

3- لقد قرأت وفهمت ما جاء أعلاه، وبناءً عليه: أوفق على أن أشارك في هذه الدراسة.

- أنا الموقع أدناه بمحض إرادتي و رغبتي وتطوعاً مني أرغب في أن أشارك في هذا البحث

التوقيع:

التاريخ\

إسم المشارك\

إسم الشخص الذي أخذ التعهد:

التاريخ

التوقيع:

(إذا لم يكن الباحث نفسه)

Researcher agreement:**The agreement:**

The researchers have agreed to collect the data for this research under Professor Abu Hein's supervision. Professor Abu Hein is a Psychologist and Consultant Director of Community Training centre and Crisis Management (CTCCM) in Gaza-Palestine. The agreement indicates that the payment method should be paid directly to the students who were involved in the data collections and for other administrative work as follows:

It has been agreed that each member will receive \$70 X 8 = \$560 + \$230 transportation + \$120 admin and required copies of the questionnaires, plus the participant consent and debriefing forms in total = \$910; the amount is equal £547.53; this was the currency rate on 12/03/2014. This money will be paid to researchers after the field work has ended. At the start of work, each of the student researchers has received 100 Shekel (Israeli currency), equal to £28.76 for transportation. The names of the researchers and their responsible research areas are as follows:

1- North Gaza group includes the following Students researchers: Anwar Abu Foul and Mahmoud El Missha.

2- Gaza City group includes the following Students researchers: Islam Edwan and Rami Al Amody.

3- Meddle Gaza group includes the following Students researchers: Nada Abu Siada and Hassan Al Maqadma.

4- South Gaza group includes the following Students researchers: Binan Abu Hussain and Hytham Abu Mandel.

Finally, all of these researchers are residents living in Gaza living and in the same responsible research areas. Therefore, there are not any risks for these researchers.

DEBRIEFING FORM

Study title: Predictors of post-traumatic stress disorder, anxiety, and depression among adults living in the Gaza Strip.

Populations in Palestine have been living under continuous exposure to traumatic experiences related to the war and the long-standing blockade. As a result of the first qualitative study, the researcher found that the adults residing in the Gaza Strip were exposed to various types of traumatic experiences on a daily basis, and that there was very limited research in the area of mental health and well-being among adults population.

Therefore, the findings of the first study have initiated the second quantitative study aimed:

- To assess the prevalence rates of Post-traumatic stress disorder (PTSD).
- To identify the psychological impact of the constant threat of war and the current long-standing siege on the mental health of adults residing in the Gaza Strip in particularly, depression and anxiety disorders will be discussed.

These aims will be guided by the following hypotheses:

- The associations of degree of trauma, residential location, bereavement, and shame with PTSD, depression and anxiety.
- The prevalence rate of PTSD, depression and anxiety among males are higher than in females.
- Age – gender will be positively associated with degree of trauma.

Arabic Copy
Debriefing form in Arabic version
نموذج إستخلاص المعلومات

عنوان الدراسة: التعرف على مدا إنتشار إضطراب الضغوط التالية للأحداث الصادمة بين البالغين الذين يعيشون في قطاع غزة

الفلسطينيون في قطاع غزة ولمدة طويلة من الزمن، وهم يعيشون في ظروف معيشية سيئة وتحت ضغوط نفسية قاسية من قِبَل المحتل الإسرائيلي. حيث يتعرضون وبشكل يومي ومنظم لخبرات نفسية مؤلمة، كالإعتداءات والقتل وهدم البيوت، بصورة متكررة ومنظمة وشبه يومية، مع وجود الحصار الشامل والمفروض على القطاع بشكل متواصل، منذ أكثر من ستة سنوات . في هذه الأستبيبات سوف نسألك عن كيف تؤثر هذه الأوضاع عليك بشكل مباشر في الماضي، وكيف تؤثر عليك الآن في الوقت الحاضر، وهل تعاني من أي أعراض أو مشاكل أو إضطرابات نفسية، ثم كيف تكيفت أو تعاملت مع تلك الخبرات النفسية المؤلمة في الماضي، وكيف تتكيف معها الآن في ظل الظروف الحالية..

بشكل عام: نتائج هذه البحث الكبير والشامل سوف تساعد على فهم طبيعة الظروف الضاغطة والصادمة لكثير من البالغين الذين يعيشون في ظروف وأوضاع غير مستقرة. والأهم من ذلك نتعرف على مدا إنتشار إضطرابات ما بعد الصدمة الناتجة عن الحروب والإعتداءات الإسرائيلية المتكررة على غزة. نريد نتعرف على أهم الأسباب والعوامل التي لها علاقة بالضغوط النفسية والتي أيضاً تؤثر تأثيراً مباشراً في إنتشار الأمراض النفسية عند فئة معينة من الناس دون الأخرى في قطاع غزة. والهدف الأخر هو محاولة لوضع برنامج وقائي وعلاجي شاملين، ثم تقديم توصيات عامة لرعاية الفرد النفسية، وتحسين حياة الفرد والمجتمع النفسية بصفة عامة

أخيراً، من أجل تأهيل وإعداد أجيال سليمة وسويه نفسياً وعقلياً، ذلك لمواجهة تحديات المستقبل، ليست فقط في قطاع غزة، بل في عموم فلسطين وخصوصاً لهؤلاء الذين يعيشون في غزة

Acceptance Letter

Letter from CTCCM for collecting data from Gaza

Dear Dr.'s

I am Professor Fadel Abu Hein, psychologist, consultant, and the director of "Community Training Centre and Crisis Management (CTCCM) Gaza-Palestine, I am willing to will help Mr. Talal El-Deeb to collect all required data on his behalf in Gaza, for the purpose of the proposed research study, which is "Predictors of post-traumatic stress disorder, anxiety, and depression among adults living in the Gaza Strip". I will be the main person who will be responsible for any potential consequences during collecting the data, and our centre will take care of any unexpected situations.

If you need any further information, please do not hesitate to contact us.

Yours sincerely,

Name: Professor: Fadel Abu Hein

Psychologist and Consultant

Director of Community Training Centre and Crisis Management (CTCCM)

Gaza Palestine Email: fabuhein@yahoo.com

Web address: www.ctccm.ps

Tel: 00972 (0) 599440848

Research Ethical approval for the studies issued by:

The Psychology Research Ethics Committee: Brunel University

Departmental Ethics Coordinator section:

This request for expedited review has been: Approved (No additional ethics form is necessary)

Declined (Full University Ethics Form is necessary)

Departmental Ethics Coordinator Name: Achim Schuetzwohl

E- signature *Achim Schuetzwohl*

Date: 20/03/2014

Figures

Table: Kolmogorov-Smirnov and Shapiro-Wilk statistic for the satisfaction questionnaires of PTSD, siege, GHQ-28 and BDI-II.

Scales satisfaction	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PTSD	.074	500	.000	.97	500	.000
Siege	.065	500	.000	.80	500	.000
GHQ-28 items	.122	500	.000	.90	500	.000
BDI-II	.080	500	.000	.90	500	.000

Figure 5. 1: Show normal distribution of PTSD, Siege, GHQ-28 and Depression (BDI-II) scales

Estimated Distribution Parameters					
		PTSD Scale	Siege	GHQ28items	Depression
Normal Distribution	Location	38.48	9.40	7.72	18.56
	Scale	10.74	3.48	6.19	11.32

The cases are unweighted.

Histograms show the frequency of normal distribution of PTSD, Siege, GHQ-28 and Depression (BDI-II) scales and normal Q-Q Plots:

Figure 5. 2: Histogram show normal distribution of PTSD scale and normal Q-Q Plot

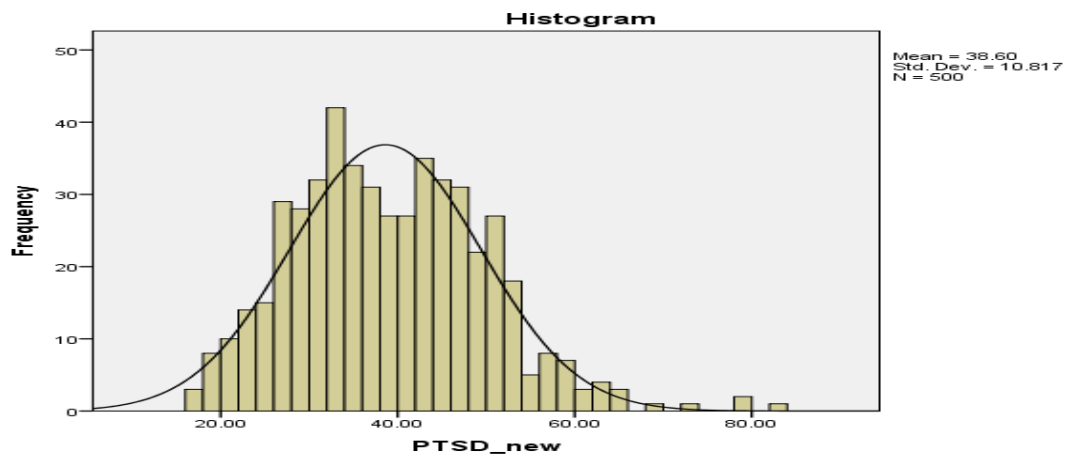


Figure 5. 3: Cases normal Q-Q Plot show normal distribution of PTSD scale

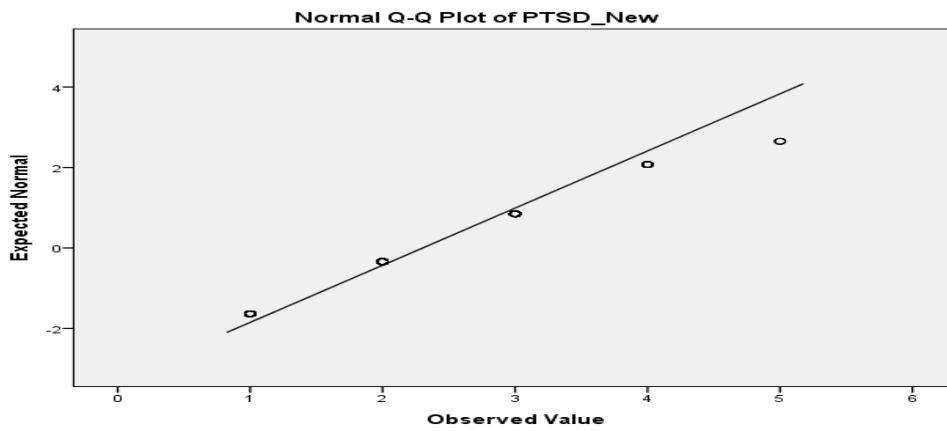


Figure 5. 4: Histogram show normal distribution of Siege scale

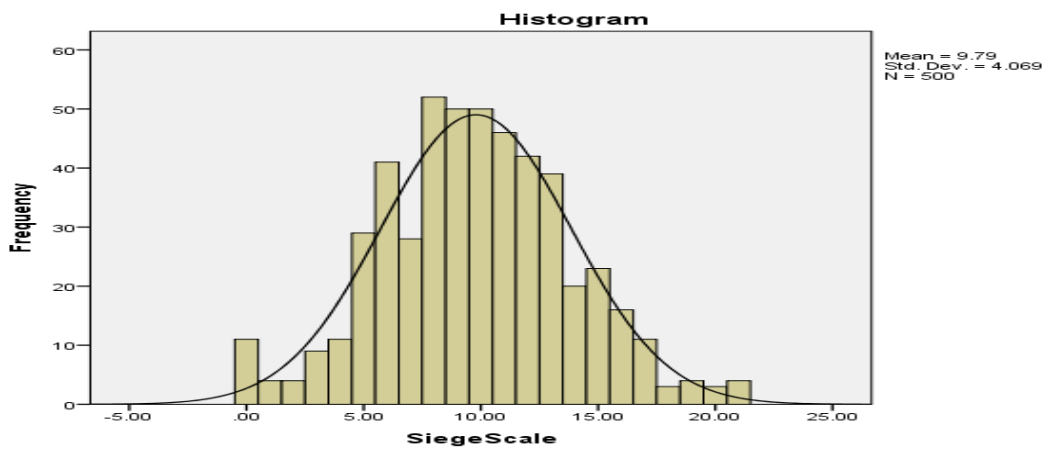


Figure 5. 5: Normal Q-Q Plot show normal distribution of Siege scale

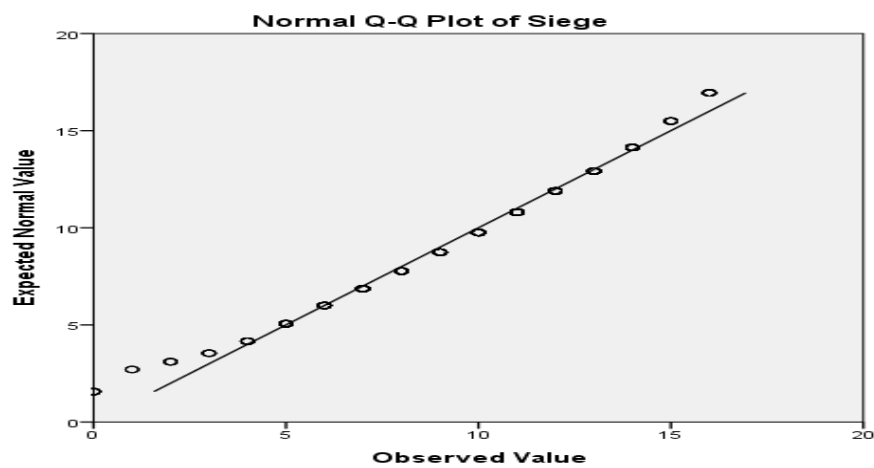


Figure 5. 6: Histogram shows a positively skewed distribution of GHQ-28 scale

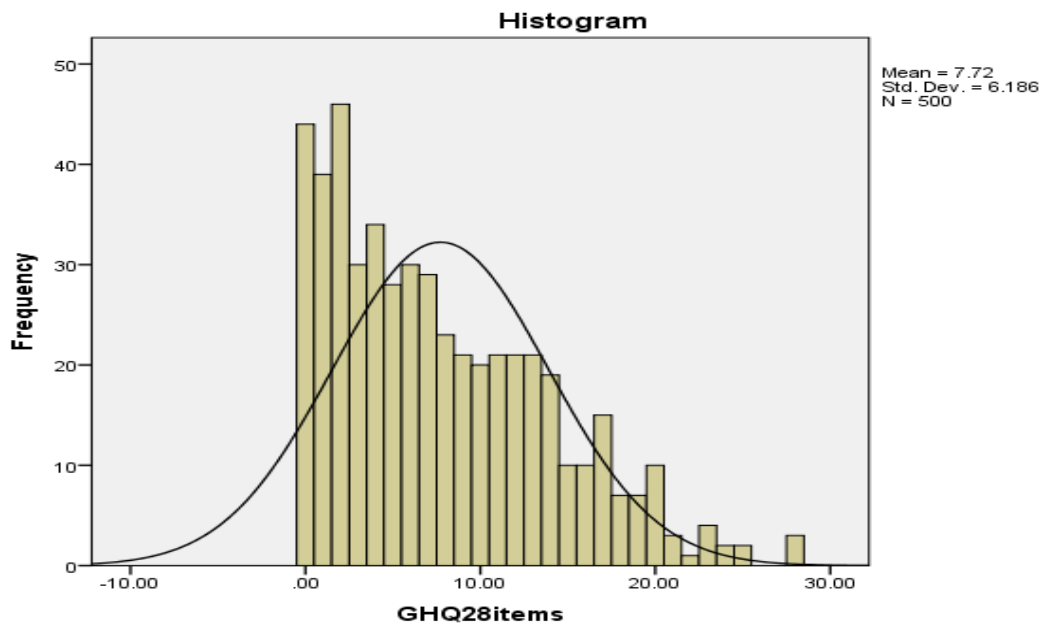


Figure 5. 7: Normal Q-Q Plot show thick tail of GHQ-28 scale.

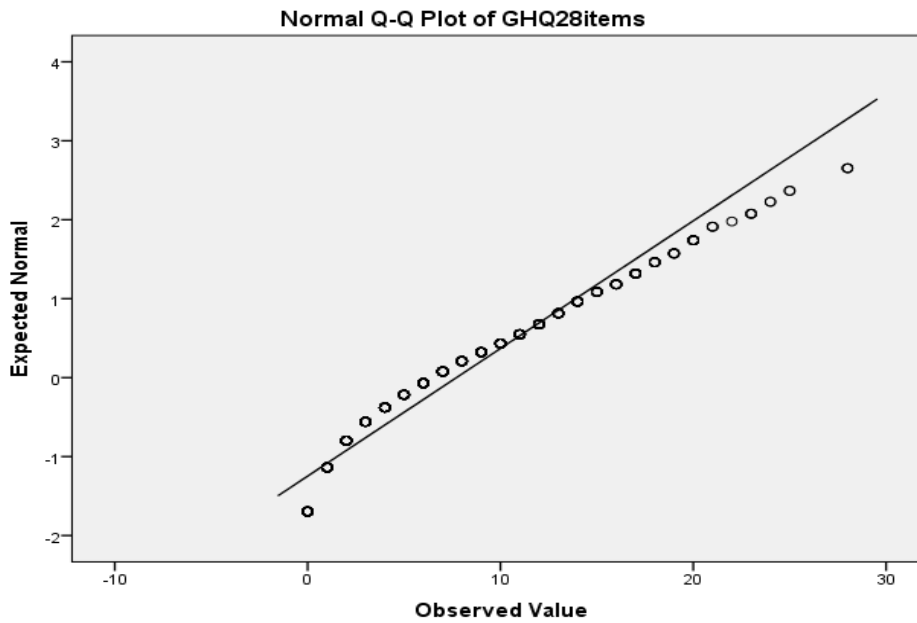


Figure 5. 8: Histogram show positive skew of depression scale

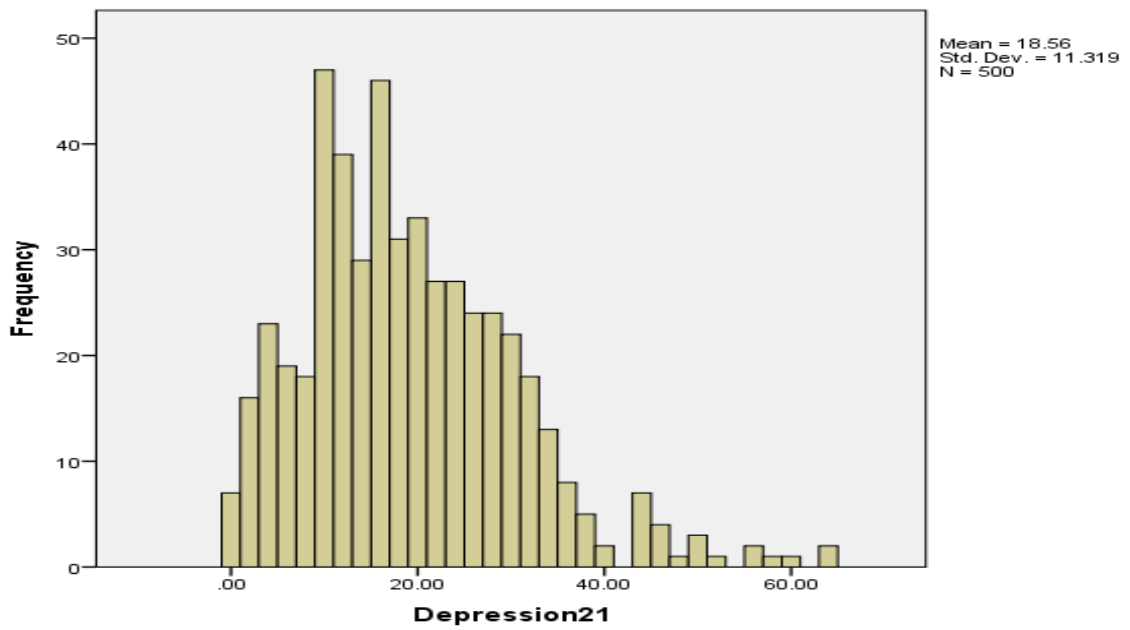


Figure 5. 9: Normal Q-Q Plot show positive skew of Depression scale

