2016

Impact of Sense of Community, Ideology, and Religiosity on Post Traumatic Stress Disorder Symptomatology From Chronic Terror Attacks

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Walden University
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Abstract

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

Walden University

October 2016

Abstract

Since 2000, the southern Israeli town of Sderot and a neighboring rural region, Otef Aza, have been frequently exposed to nearly identical terror attacks by Hamas. While only a small minority of Otef Aza residents have been diagnosed with post-traumatic stress disorder (PTSD), more than a third of Sderot residents have been diagnosed with PTSD. Factors such as social cohesion and ideology may be the unique factors that protect Otef Aza kibbutzim residents from PTSD; however, a gap in the literature exists as to how these same factors might affect PTSD symptomology in Sderot residents. Orthodox religiosity has also been associated with reduced PTSD symptoms in Sderot; however, previous research on religiosity has analyzed demographic characteristics and did not use a measure assessing dimensions of religiosity. The purpose of this quantitative study was to examine the impact of sense of community, ideology, and religiosity on PTSD symptoms among Sderot residents. The theoretical foundation of this study was the diathesis–stress model of PTSD. A survey was completed by a convenience sample of Sderot residents (n = 118). Standard multiple linear regression revealed that ideology, intrinsic religiosity, nonorganizational religious activity, and the fulfillment of needs dimension of sense of community were significant predictors of PTSD symptomatology. Study findings suggested protective factors which could help a large portion of the population. These findings have implications for positive social change for the residents of Sderot by enhancing their opportunities for increased positive interactions, well-being, and meaning and value in their lives.

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Dedication

This dissertation is dedicated to my father who instilled in me the aspiration for knowledge and education and my mother who is doing her utmost for her children. This dissertation is also dedicated to residents of Sderot living under a constant threat of terrorism. My heart goes out to them.

Acknowledgments

I am very thankful to my Chairperson, Dr. Kathryn L. Dardeck. Her expertise, knowledge and experience combined with kindness and empathy allowed me to develop this study in the best possible way.

I am very thankful to my methodologist, Dr. Amy E. Sickel. Her professional and clear guidance was extremely valuable for developing this study.

I am very thankful to my committee member, Dr. Georita M. Frierson for her helpful suggestions and feedback.

In the Jewish psychology and culture there is a term which says that thanksgiving offering will never come to an end. This term is appropriate to describe my profound thankfulness to my Chairperson: Dr. Kathryn L. Dardeck, and committee members: Dr. Amy E. Sickel, and Dr. Georita M. Frierson, which will never come to an end.

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Chapter 1: Introduction to the Study

For more than 10 years, southern Israeli towns, including a town called Sderot, have been attacked frequently by Hamas, a Gaza-based terrorist organization (Gelkopf, Berger, Bleich, & Silver, 2012). Accompanied by loud warning sirens, more than 10,000 rockets and mortars have been fired on southern Israel since the year 2000. Residents of Sderot are suffering distress to an even greater extent than has been estimated (Stein et al., 2013). Gelkopf et al. (2012) and Stein et al. (2013) found that more than one third of Sderot residents aged 18-83 years met the criteria for posttraumatic stress disorder (PTSD). More than one third of the population of southern Israel has significant functional impairments as a result of the ongoing terror (Gelkopf et al., 2012). As such, a large portion of the population experiences levels of distress preventing them from working, studying, functioning within the family, or simply from enjoying life.

The ongoing conflict also negatively affects the Arab population. High rates of PTSD have been found for Palestinians in the Gaza strip, where 17.8% of residents had PTSD (De Jong et al., 2001), and more than one quarter of the adolescents had PTSD (Khamis, 2012). More research on the psychological impact of ongoing incidents of terror attacks is needed (Besser, Neria, & Haynes, 2009) to identify the protective factors that could help more than one third of this region's large population (Gelkopf et al., 2012). Identifying more protective factors would reduce PTSD symptomatology and improve mental health for more than one third of residents of Sderot.

This chapter provides the scope of the research relevant to this study, the purpose of the study, a description of the problem statement, the research questions, and

hypotheses. In addition, the theoretical framework, the nature of this study, and its significance will be described. I also address the limitations, scope, and delimitations.

Background

Otef Aza (which literally translates to Gaza envelope*)* is a rural region located next to Sderot. Since 2000, residents of Otef Aza have been exposed to the same continuous terror attacks as residents of Sderot. Yet Stein et al. (2013) discovered that only 6.6% of residents of Otef Aza had PTSD, while more than 35% of Sderot residents had PTSD. Stein et al. assessed PTSD symptomatology using the same procedures and measures for Sderot residents and Otef Aza residents reducing the possibility that Otef Aza residents were misdiagnosed. Stein et al. suggested that unique characteristics of Otef Aza communities may protect their residents from developing PTSD. Researchers (Braun-Lewensohn & Sagy, 2014; Gelkopf et al., 2012; Nuttman-Shwartz & Dekel, 2009; Stein et al., 2013) have suggested that social cohesion, solidarity, socialistic ideology, and communal lifestyle, which can be captured by the broader concepts of sense of community and ideology, may be the unique characteristics of Otef Aza communities that protect their residents from chronic terrorism-caused PTSD. Researchers, however, have neither tested the direct effects of these factors nor examined how these factors correlate with PTSD symptoms among residents of Sderot (Stein et al., 2013).

In addition, orthodox religiosity and ultra-orthodox religiosity have been associated with reduced PTSD symptoms in the context of repeated acts of terrorism and of the Israel-Hezbollah war experienced in Israel (Hobfoll et al., 2008; Palmieri et al.,

2008). However, researchers have not measured religiosity by an instrument that assesses major dimensions of religiosity and investigates its correlation with PTSD symptoms for residents of Sderot.

Many researchers have suggested that sense of community, ideology, and religiosity may have a protective effect on the mental health of people who have been exposed to traumatic events (Aflakseir & Coleman, 2009; Ajdukovic et al., 2013; Ben-Porat, Boaz Yablon, & Itzhaky, 2013; Ben-Porat & Itzhaky, 2008; Banyard & Williams, 2007; Bentley, Ahmad, & Thoburn, 2014; Blumstein et al., 2004; Braun-Lewensohn & Sagy, 2014; Butler, Morland,& Leskin, 2007; Chang, Skinner, Zhou, & Kazis, 2003; Cicognani, Pietrantoni, Palestini, & Prati, 2009; Cowman, Ferrari, & Liao-Troth, 2004; Davidson & Cotter, 1991; Dekel & Nuttman-Shwartz, 2009; Dimitry, 2012; Drescher & Foy, 1995; Fischer, Greitemeyer, Kastenmüller, Jonas, & Frey, 2006; Freedom, 2010; Gapen et al., 2011; Garbarino, Kostelny, & Dubrow, 1991; Gerber, Boals, & Schuettler, 2011; Greenfield & Marks, 2010; Johnson & Thompson, 2008; Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001; Hasanović & Pajević, 2010; Hautamäki & Coleman, 2001; Hawkins & Maurer, 2011; Hobfoll, Jackson, Pierce, & Young, 2002; Huang & Swong, 2014; Hobfull et al., 2008; Kanagaratnam et al., 2005; Kaplan et al., 2005; Kelly, 2007; Korn & Zukerman, 2011; Khamis, 2012; Kia-Keating & Ellis, 2007; Kimhi & Shamai, 2004; Kovatz, Kutz, Rubin, Dekel, & Shenkman, 2006; Laor, Wolmer, &Cohen, 2004; Laufer & Solomon, 2011; Lilly, Howell, & Graham-Bermann 2015; Laor et al., 2006; Lauer & Solomon, 2008; Levav, Kohn, & Biliing, 2008; Moscardino et al., 2010; Muldoon & Downes, 2007; Muldoon & Wilson, 2001;

Nuttman-Shwarts & Dekel, 2009; Oren &Possick, 2010; Palmieri et al., 2008; Prezza, Amici, Roberti, & Tedeschi, 2001; Punamäki, 1996; Punamäki, Qouta, & El-Sarraj, 2001; Schaefer, Blazer, & Koenig, 2008; Schiff, 2006; Somer, Maguen, Or-Chen, & Litz, 2009; Stein et al., 2013; Tagay et al., 2006; Watlington & Murphy, 2006; Wayment, 2004). Still, a gap in the scholarly literature remains with regard to a lack of research on measuring sense of community, ideology, and religiosity by measures that assess these variables to investigate the potential correlation with PTSD symptoms for residents of Sderot. Therefore, a study is needed to narrow the gap in knowledge of the possible protective effects of sense of community, ideology, and religiosity against PTSD among Sderot residents who have been exposed to terror attacks for more than 10 consecutive years.

Problem Statement

From 2000 to 2015, southern Israeli towns, including a town called Sderot, have been continually attacked by Hamas. About 10 years ago, in 2005, the rocket attacks on Sderot have become more frequent and intense, which led Israel to launch several military operations such as operation summer rains in June 2016, cast lead operation in Dec 2008, and operation protective edge in Aug 2014 (Kasher, 2010; Malka, Ariel, & Avidar, 2015). Research on protective factors against PTSD in civilians who have been exposed to ongoing incidents of terror for more than 10 consecutive years is still in its infancy (Besser et al., 2009). Israel, a natural laboratory for studying the effects of ongoing traumatic incidents of terror on a civilian population, provides a research opportunity to examine psychological resiliency and potential protective factors against

PTSD in the context of ongoing incidents of terror for more than 10 consecutive years (Stein et al., 2013).

Researchers have discovered that residents of the rural region of Otef Aza, who have been exposed to the same level of ongoing terror incidents as residents of the city Sderot, had a rate of PTSD similar to residents of nonexposed communities (Gelkopf et al., 2012); residents of nearby Sderot had a much higher rate of PTSD (Gelkopf et al., 2012). Similarly, Stein et al. (2013) found that 35.2% of Sderot residents had PTSD, while only 6.6% of Otef Aza residents had PTSD. In addition, unlike Sderot residents, inhabitants of Otef Aza showed no dose-response relationship: increased exposure to trauma did not cause them an increased PTSD symptomatology (Stein et al., 2013). Residents of Otef Aza possess certain unique protective factors against PTSD. Researchers (Braun-Lewensohn & Sagy, 2014; Gelkopf et al., 2012; Nuttman-Shwartz & Dekel, 2009; Stein et al., 2013) have claimed that Otef Aza communities are characterized by unique social cohesion, solidarity, socialistic ideology, and communal lifestyle; these features can be captured by the concepts sense of community and ideology. Therefore, these features might serve as protective factors against PTSD, in the context of the ongoing incidents of terror experienced by residents of southern Israel (Braun-Lewensohn & Sagy, 2014; Gelkopf et al., 2012; Nuttman-Shwartz & Dekel, 2009; Stein et al., 2013). However, researchers have not directly tested the association between sense of community, ideology, and PTSD symptoms in Sderot residents (Stein et al., 2013).

Orthodox religiosity was associated with reduced PTSD symptoms in the context of the ongoing terror attacks in Israel (Gelkopf et al., 2012; Palmieri et al.,2008). In the context of the Israel-Hezbollah war, Palmieri et al. (2008) found that ultrareligious individuals had lower PTSD rates, and, in the context of the ongoing terror attacks in southern Israel, Gelkopf et al. (2012) claimed that orthodox religiosity was associated with reduced PTSD symptoms. However, researchers have not religiosity and its effect on PTSD symptoms in residents of Sderot. A gap in the current literature exists regarding a lack of research on assessing sense of community, ideology, and religiosity by appropriate measures to investigate the correlation with PTSD symptoms for residents of Sderot.

Purpose of the Study

The purpose of this correlational study was to examine the impact of the independent variables sense of community, ideology, and religiosity on the dependent variable, PTSD symptoms, among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

Research Questions and Hypotheses

RQ_1: Does sense of community impact PTSD symptomatology in chronic terror attack situations?

Ho_1: Sense of community, as measured by the Sense of Community Index (SCI), does not affect PTSD symptomatology for residents of Sderot, as measured by the PTSD CheckList Civilian Version (PCL-C).

*H*a$_1$: Sense of community, as measured by the SCI, does impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

RQ$_2$: Does ideology impact PTSD symptomatology in chronic terror attack situations?

*H*o$_2$: Ideology, as measured by the measure of Oren and Possick for ideology, does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

*H*a$_2$: Ideology, as measured by the measure of Oren and Possick for ideology, does impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

RQ$_3$: Does religiosity impact PTSD symptomatology in chronic terror attack situations?

*H*o$_3$: Religiosity, as measured by the Duke University Religion Index (DUREL), does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

*H*a$_3$: Religiosity, as measured by the DUREL, does impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

RQ$_4$: Which of the three independent variables (sense of community, ideology. and religiosity) has the greatest impact on PTSD symptomatology?

*H*o$_4$: The three independent variables sense of community, ideology, and religiosity (as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL) will have an equal impact on PTSD symptomatology, as measured by the PCL-C.

*H*a$_4$: The three independent variables sense of community, ideology, and religiosity (as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL) will not have an equal impact on PTSD symptomatology, as measured by the PCL-C.

Theoretical Framework

The theoretical foundation of this study was the diathesis–stress model of PTSD, a model suggesting that three etiological pathways—residual stress, ecological diathesis, and biological diathesis—are associated with PTSD (McKeever & Huff, 2003). Residual stress comes from the severity of the trauma. Ecological diathesis includes personal, family, cultural, social, and environmental factors. Biological diathesis includes all of the biological factors associated with the development of PTSD. A more detailed explanation of this theoretical framework will be presented in Chapter 2.

The purpose of this study was to examine the protective effects of sense of community, ideology, and religiosity against PTSD in residents of Sderot, Israel, who have been exposed to terror attacks for more than 10 consecutive years. Sense of community, ideology, and religiosity are ecological factors that might influence the cognitive perception of stress, and, as a consequence, might influence the vulnerability of individuals to develop PTSD (Gelkopf et al., 2012; Oren & Possick, 2010; Palmieri et al., 2008). The diathesis–stress model of PTSD provides a framework in which research questions concerning the impact of sense of community, ideology, and religiosity on PTSD symptomatology can be addressed.

Nature of the Study

A correlational approach was used to investigate the impact of three independent variables—sense of community, ideology, and religiosity—on the dependent variable, PTSD symptoms among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. A correlational study is appropriate for investigating a relationship between independent variables and a dependent variable when participants are not assigned randomly to a particular group among whom the independent variables are manipulated (Creswell, 2013). I recruited willing participants in the middle of Sderot's shopping center at different times of day (8 am to 6 pm), several times per week (Sunday through Thursday).

A preliminary analysis included data cleaning, descriptive statistics, and assumption testing. The main analyses included hypotheses testing using multiple linear regression. A more detailed explanation about data collection and analyses will be discussed in Chapter 3.

Definitions

*Dose-response relationship**:*** Dose-response relationship is an increased exposure to trauma causes increased PTSD symptomatology (Stein et al., 2013).

Ideology: Ideology refers to political, moral, and religious belief systems (Oren & Possick, 2010). Researchers assess ideology by using scales designed for the specific sociopolitical context of their population (Shechner, Slone, & Bialik, 2007). Ideology was assessed with Oren and Possick's (2010) measure of ideology.

Kibbutz: A kibbutz (plural, *kibbutzim)* is a unique type of Israeli community based on complete equality for its members (Ben-Rafael, 2009). A kibbutz is a community cooperative based on socialistic values of equality. The kibbutz is characterized by economic cooperation and complete equality (Ben-Rafael, 2009). Otef Aza region that is mentioned in this study is composed mainly of kibbutzim.

PTSD symptom level: Participants' PTSD symptoms were measured by the PTSD Checklist–Civilian Version (PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL-C, a well-validated measure assessing each symptom of PTSD, has been widely used to assess PTSD symptoms across the world, including in Israel (Dickstein et al., 2012; Ruggiero, Del Ben, Scotti, & Rabalais, 2003).

Religiosity: The essence of the concept of religiosity can be captured by three major dimensions: organizational religious activity, nonorganizational religious activity, and intrinsic religiosity (Bentley et al., 2014; Koenig & Büssing, 2010). Organizational religious activity includes public religious activities, such as attending a synagogue or a church. Nonorganizational religious activity includes private religious activities, such as reading a religious book. Intrinsic religiosity includes personal religious commitment and motivation (Bentley et al., 2014; Koenig & Büssing, 2010). Religiosity was measured by the DUREL, which assesses these main three dimensions of religiosity (Koenig & Büssing, 2010).

Sense of community: Sense of community is defined by McMillan and Chavis (1986) as a feeling that members of a certain group have of belonging and of being important to each other, and a shared belief that the needs of members will be met by the

collective. McMillan and Chavis defined four dimensions of sense of community: membership, influence, fulfillment of needs, and shared emotional connection.

Assumptions

I assumed that participants provided truthful answers. Participation was completely voluntary; therefore, I believed that participants made an effort to read the questionnaires and provide truthful answers. I assumed that the sample represented the population. I recruited participants, at different times of day and several times per week, at the most central location of Sderot; anyone who needs to shop must come to this only commercial center in Sderot. In addition, I assumed that those who agreed to volunteer for the study were not different from those who refused in some meaningful way that might cause the sample to be unrepresentative of the whole population. I assumed that the instruments named SCI, DUREL, the measure of Oren and Possick (2010) for ideology and PCL-C had validity and measured the desired constructs in the population of Sderot as based and explained in Chapter 2 and Chapter 3.

Scope and Delimitations

The specific aspects of the research problem addressed in the study were how residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years have been affected in terms of PTSD symptoms based on three independent variables: sense of community, as measured by the SCI; ideology, as measured by the measure of Oren and Possick (2010); and religiosity, as measured by the DUREL. PTSD symptoms were measured by the PCL-C.

The inclusion criteria required participants to be residents living in Sderot for the past 10 years and above the age of 18. People who did not meet these criteria were excluded. Therefore, the results cannot be generalized beyond residents of Sderot. However, similar results might be found for different populations who have been exposed to terror attacks and might encourage other researchers to replicate this study for different populations.

Limitations

Correlational Study

This was a correlational study; therefore, by definition, a causal inference between the independent variables and the dependent variable cannot be made (Campbell & Stanley, 1963).

External Validity

The participants included a convenience sample rather than a representative sample. Therefore, the generalizability of the results is limited (Campbell & Stanley, 1963). To address this limitation, I recruited participants at different times of day and several times per week. This recruitment strategy allowed the chosen sample to be equated to a more representative sample of the larger population (Boxill, Chambers, & Wint, 1997).

In addition, participation was voluntary; therefore, those who agreed to volunteer for the study may be different from those who refused (Wiersma, 2013). Thus, the sample may be unrepresentative of the entire population of Sderot, and, as a result, it may restrict the external validity of the results (Wiersma, 2013).

Internal Validity

If unusual terror attacks took place throughout Israel prior to the study, it would damage the internal validity of the study. This issue of internal validity is called *history* (Creswell, 2013). To address this limitation, I did not conduct the study in times of or soon after unusual tension.

PTSD symptom level was measured by a self-report assessment called the PCL-C. One of the disadvantages of self-report assessment is that participants may not provide accurate answers, because they wish to present themselves in a socially acceptable manner, a phenomenon called social desirability bias (Brenner & DeLamater, 2014; Dadds, Perrin, & Yule, 1998). However, this disadvantage exists in all self-report methods including interviews (Krumpal, 2013). Self-report questionnaires are conventional in quantitative studies because of their advantages. They allow researchers to examine large samples easy and quickly and to examine a large number of variables (Fowler, 2013). The gold standard for diagnosing PTSD is a structured clinical interview such as the Clinician-Administered PTSD Scale, which takes 45-60 minutes to administer (U.S. Department of Veterans Affairs, 2016). The PCL-C was designed to assesses symptoms of PTSD and not to make lifetime diagnosis of PTSD. The PCL-C takes approximately 5-10 minutes to complete and is widely used by researchers, including researchers who studied Sderot population, to assess PTSD symptomatology (Gelkopf et al., 2012; Stein et al., 2013; U.S. Department of Veterans Affairs, 2016).

Confounding Variables

The independent variables and the dependent variable may be associated with variables not measured in the present study. If variables that have not been included in the main analysis influenced the dependent variable, it would be a limitation of internal validity (Field, 2013). If external variables that were not measured in the present study correlate with the independent variables and the dependent variable, then the conclusions of the study would be invalid or limited (Field, 2013). To address this limitation of internal validity, I attempted to rule out the demographic variables that confounded study results, and if confounding variables were found, I would statistically control for those variables in the main analyses.

Significance of the Study

A gap in the scholarly literature exists with regard to a lack of research on measuring a sense of community, ideology, and religiosity to investigate the potential correlation with PTSD symptoms for residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. More than 35% of Sderot residents, aged 18-83, meet the criteria for PTSD (Gelkopf et al., 2012; Stein et al., 2013). More than one third of the population of southern Israel has significant functional impairments as a result of the ongoing incidents of terror (Gelkopf et al., 2012). The ongoing political conflict also affects Palestinians in the Gaza strip. Khamis (2012) found that 25.7 % of the adolescents in Gaza had PTSD; De Jong et al. (2001) found that 17.8% of Gaza residents had PTSD. However, research on the protective factors against PTSD in

civilians who have been exposed to ongoing incidents of terror for more than 10 consecutive years is still in its infancy (Besser et al., 2009), and more research is needed.

Identifying protective factors such as a sense of community, ideology, and religiosity against PTSD can be promoted in this large population to help more than one third of the region's population, which would be valuable for effecting positive social change.

Summary

Residents of Sderot and Otef Aza have been exposed to terror attacks for more than 10 consecutive years. More than 35% of Sderot residents have PTSD, but only 6.6% of Otef Aza residents have this same disorder (Gelkopf et al., 2012; Stein et al., 2013). Researchers (Braun-Lewensohn & Sagy, 2014; Gelkopf et al., 2012; Nuttman-Shwartz & Dekel, 2009; Stein et al., 2013) have suggested that social cohesion, solidarity, socialistic ideology, and communal lifestyle (which can be captured by the concepts of sense of community and ideology) may be the unique factors of Otef Aza communities that protect their residents from PTSD. Others (Hobfoll et al., 2008; Palmieri et al., 2008) have found that orthodox religiosity was correlated with reduced PTSD symptoms in the context of chronic terror attacks in Israel. However, researchers have not measured sense of community, ideology, and religiosity to investigate the potential correlation with PTSD symptoms for residents of Sderot. This study was intended to fill that gap.

The theoretical framework of this study was the diathesis–stress model of PTSD, which can explain the impact of ecological factors such as sense of community, ideology, and religiosity on PTSD symptomatology (McKeever & Huff, 2003). The approach of

this study was correlational, and the target population was residents of Sderot, Israel, who have been exposed to terror attacks for more than 10 consecutive years. The main analyses included hypotheses testing using multiple linear regression. The study has several limitations. As a correlational study, a causal inference cannot be made. Furthermore, because a convenience sample was used, the generalizability of the results might be limited.

Identifying protective factors against PTSD that can be promoted in this population, can help more than 35% of its members who have PTSD. Thus, the study has potential for effecting positive social change. Chapter 2 provides an elaborated literature review.

Chapter 2: Literature Review

Introduction

In this literature review, I will examine research on the psychological impact of ongoing traumatic incidents of terrorism on the civilian population in a single town in Israel (Sderot) for more than 10 consecutive years. Research on the psychological influence of exposure to ongoing incidents of terror for more than 10 consecutive years is still in its infancy (Besser, Neria, & Haynes, 2009); therefore, more research is needed. The ongoing terror situation in Israel around the town of Sderot allows for expanding research beyond the study of reactions to single incidents. It is an ideal opportunity to examine psychological resiliency and potential protective factors against PTSD in the context of ongoing incidents of terror for more than 10 consecutive years (Stein et al., 2013).

Since 2000, southern Israeli towns, including a town called Sderot, have been frequently attacked by Hamas, a Gaza-based terrorist organization (Gelkopf et al., 2012). Accompanied by loud local warning sirens, more than 10,000 rockets and mortars have been fired on these towns. This study was designed to narrow the gap in knowledge of the possible protective factors against PTSD among Sderot residents.

Otef Aza (which translates to Gaza envelope) is a rural region in southern Israel, whose residents have also been exposed to the continuous firing of rockets and mortars since 2000. Otef Aza and Sderot are equidistant from Gaza Strip and from where rockets have been fired. Researchers have discovered that only 6.6% of residents of Otef Aza had PTSD (Stein et al., 2013). In contrast, more than one third of Sderot residents, a city with

the same level of exposure to mortar attacks as Otef Aza, had PTSD. In addition, Stein et al. (2013) found that residents of Otef Aza did not show a dose-response relationship compared to residents of Sderot. Particularıy unique characteristics of Otef Aza communities protect their residents from developing PTSD. Sense of community and ideology, including social cohesion, solidarity, socialistic ideology, and communal lifestyle may be the unique characteristics of Otef Aza communities that protect their residents from PTSD in the context of chronic terror attacks (Gelkopf et al., 2012; Stein et al., 2013). However, researchers have neither tested the direct effects of these factors nor examined how these factors correlate with PTSD symptoms on the same population (Stein et al., 2013). Sense of community and ideology are appropriate concepts to capture part of the uniqueness of Otef Aza communities (Gelkopf et al., 2012; McMillan & Chavis, 1986). Therefore, I examined the correlation between sense of community, ideology, and PTSD symptoms among residents of Sderot.

Researchers have found in the context of the Israel-Hezbollah war that Jewish ultrareligious individuals had lower PTSD rates than Jewish, non-ultra-Orthodox individuals (Palmieri et al., 2008). Additionally, Hobfoll et al. (2008) found that orthodox religiosity was correlated with reduced PTSD symptoms in the context of repeated acts of terrorism experienced in Israel. However, researchers have not measured religiosity by its effect on PTSD symptoms for residents of Sderot. Therefore, I examined the protective effect of religiosity on PTSD symptoms among Sderot residents. The aim of this study was to examine the protective effects of sense of community, ideology, and religiosity

against PTSD among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

This chapter will provide a review of the diathesis-stress model of PTSD (McKeever & Huff, 2003), previous applications of this theory (Elwood, Mott, Williams, Lohr, & Schroeder, 2009; Luxton, Skopp, & Maguen, 2010) and the relevance of this theory to this study. Research on the impact of sense of community, ideology, and religiosity on PTSD symptomatology will be incorporated into this chapter as well (Aflakseir & Coleman, 2009; Ajdukovic et al., 2013; Ben-Porat et al., 2013; Ben-Porat & Itzhaky, 2008; Bentley et al., 2014; Benyard & Williams, 2007; Blumstein et al., 2004; Braun-Lewensohn & Sagy, 2014; Butler et al., 2007; Chang et al., 2003; Cicognani et al., 2009; Cowman et al., 2004; Davidson & Cotter, 1991; Dekel & Nuttman-Shwartz, 2009; Dimitry, 2012; Drescher & Foy, 1995; Fischer et al., 2006; Freedom, 2010; Gapen et al., 2011; Garbarino et al., 1991; Gerber et al., 2011; Greenfield & Marks, 2010; Johnson & Thompson, 2008; Harrison et al., 2001; Hasanović & Pajević, 2010; Hautamäki & Coleman, 2001; Hawkins & Maurer, 2011; Hobfoll, Jackson, Pierce, & Young, 2002; Huang & Swong, 2014; Hobfull et al., 2008; Kanagaratnam, Raundalen, & Asbjørnsen, 2005; Kaplan, Matar, Kamin, Sadan, & Cohen, 2005; Kelly, 2007; Korn & Zukerman, 2011; Khamis, 2012; Kia-Keating & Ellis, 2007; Kimhi & Shamai, 2004; Kovatz et al., 2006; Laor et al., 2004; Laufer & Solomon, 2011; Lilly et al., 2015; Laor et al., 2006; Lauer & Solomon, 2008; Levav et al., 2008; Moscardino et al., 2010; Muldoon & Downes, 2007; Muldoon & Wilson, 2001; Nuttman-Shwarts & Dekel, 2009; Oren &Possick, 2010; Palmieri et al., 2008; Prezza et al., 2001; Punamäki, 1996; Punamäki et

al., 2001; Schaefer et al., 2008; Schiff, 2006; Somer et al., 2009; Stein et al., 2013; Tagay et al., 2006; Watlington & Murphy, 2006; Wayment, 2004). The gap in the literature will be examined in light of previous research on PTSD. A description of how this present study fills the identified gap in the literature will be analyzed and incorporated.

Literature Search Strategy

Articles from a search of literature were retrieved digitally from electronic psychology databases, including PsycINFO, PscyARTICLES, PsychTESTS, Thoreau Multi-Database, Academic Search Complete, and Google Scholar. The list of search terms used to conduct the literature search included *PTSD and Israel; PTSD and Sderot; Israeli -Palestinian conflict and PTSD; Israeli -Palestinian conflict and protective factors; Israeli -Palestinian conflict and protective factors OR resiliency and civilians; Israel and war; Israel and PTSD; resiliency and PTSD; resiliency and war; resiliency and political violence; resiliency and conflict; protective factors and PTSD; ongoing stress and resiliency; sense of community and PTSD; ideology and PTSD; religiousness and PTSD; spirituality and PTSD; community and war; community and wellbeing; solidarity and wellbeing; ideology and wellbeing; ideological commitment and wellbeing; religiosity and PTSD; belonging and PTSD; religiosity and PTSD OR post-traumatic stress disorder and Northern Ireland; community and PTSD OR post-traumatic stress disorder and Northern Ireland; belonging and PTSD OR post-traumatic stress disorder and Northern Ireland; ideology and PTSD OR post-traumatic stress disorder and Northern Ireland; religiosity and war; ideology and war; belonging and war; PTSD OR post-traumatic stress disorder and Northern Ireland; community OR belonging and*

Northern Ireland; religiosity OR community OR belonging OR ideology and PTSD OR post-traumatic stress disorder and political conflict OR war; religiosity OR religion OR spirituality OR forgiveness and posttraumatic stress; ideological commitment and PTSD OR posttraumatic stress disorder; ideological commitment and war; community and stress OR trauma; belonging and stress OR trauma; protective factors and middle east; resiliency and middle east; ideological commitment and PTSD and middle east; political terrorism of civilians and protective factors; political terrorism of civilians and resiliency; political terrorism of civilians and community; political terrorism of civilians and ideology; political terrorism of civilians and ideological commitment; political terrorism of civilians and religiosity; political terrorism of civilians and belonging; political terrorism of civilians and PTSD OR posttraumatic stress disorder; conflict and civilians and PTSD; war and civilians and PTSD; and *terrorism and civilians and PTSD*.

Theoretical Foundation

The Diathesis–Stress Model Origin and Application

The theoretical foundation of this study was the diathesis–stress model of PTSD (McKeever & Huff, 2003). This comprehensive etiological model integrates up-to-date findings from both medical and psychological research. According to the diathesis–stress model of PTSD, three etiological pathways are associated with the disorder: residual stress, ecological diathesis, and biological diathesis (McKeever & Huff, 2003)

Residual stress comes from the severity of the trauma. The intensity of the trauma increases the risk for PTSD and increases the severity of PTSD symptoms (McKeever & Huff, 2003). This phenomenon is known in the scholarly literature as a dose-response

relationship (Stein et al., 2013). Intensity of the trauma by itself, however, cannot explain the etiology of PTSD (McKeever & Huff, 2003). That some people do not develop PTSD in spite of high levels of traumatic intensity has contributed to questions about the complex relationship between the variables. Other variable and etiological pathways are involved in this process (McKeever & Huff, 2003).

The second pathway is ecological diathesis, which includes personal, family, cultural, social, and environmental factors (McKeever & Huff, 2003). McKeever and Huff (2003) noted the importance of ecological factors through research demonstrating how such factors can lead to PTSD. Breslau, Chilcoat, Kessler, and Davis (2014) found that history of trauma increased vulnerability to develop PTSD later in life. Exposure to familial abuse led to maladaptive cognitive patterns associated with PTSD. History of abuse may result in the development of feelings of helplessness, loneliness, and vulnerability (Engel et al., 1993). Helpless thought patterns are associated with the development of PTSD (Solomon, 2013). As McKeever and Huff showed, children who experience abuse tend to develop helpless thought patterns, which negatively affect the experience of subsequent trauma. Ecological factors affect cognitive patterns and perceptions of trauma, and, as a result, influence vulnerability to develop PTSD. An additional environmental factor that strengthens the significance of the ecological diathesis in the etiology of PTSD is social support. Tsai, Harpaz-Rotem, Pietrzak, and Southwick (2014) found that limited social support increased the risk to develop PTSD, while higher levels of perceived social support decreased the risk to develop PTSD.

The third pathway is biological diathesis, which includes all of the biological factors associated with the development of PTSD (McKeever & Huff, 2003). This pathway was determined following research suggesting stress alters brain volume, neuronal activity, and hormonal secretion (Bermner, 2005). Meewisse, Reitsma, De Vries, Gersons, and Olff (2007) found that persons with PTSD had higher levels of norepinephrine and epinephrine compared to persons without PTSD. Trauma victims had reduced activity of cyclic adenosine monophosphate (AMP) signal transduction (Martini et al., 2013). Cyclic AMP is synthesized from adenosine triphosphate (ATP) and function as a second messenger in intracellular signal transduction, transferring into cells the effects of different hormones (McDonough & Rodriguez, 2012; Udhane, Kempna, Hofer, Mullis, & Flück, 2013). In addition, Bermner (2005) found that exposure to traumatic stress is related to altered hippocampal neuronal morphology.

Ecological and biological diathesis are not separate pathways (Bomyea, Risbrough, & Lang, 2012), but they have a mutual influence on each other. For example, a history of trauma changes not only cognitive patterns, but also changes hippocampal neuronal morphology, which, in turn, influences cognitive parameters (McKeever & Huff, 2003). The diathesis–stress model of PTSD has the potential to explain why two persons who experienced the same trauma have a different stress response, and why one might develop PTSD and the other might not, depending on the degree of their ecological and biological risk\protective factors.

Previous application of the diathesis–stress model. Researchers have examined gender-based differences in PTSD symptoms among soldiers who were deployed in

support of operations in Afghanistan and Iraq (Luxton et al., 2010). Trauma severity was a stronger predictor of PTSD for women than for men, and gender moderated the connection between trauma severity and PTSD symptoms (author, year). Women had higher severity of depressive symptoms postdeployment. Luxton et al. (2010) used the diathesis-stress model of PTSD to explain the association between trauma severity and PTSD symptoms. This association can be explained by the residual stress etiological pathway (McKeever & Huff, 2003). In addition, this theory could explain the finding that trauma severity was a stronger predictor of PTSD for women than for men by the biological diathesis etiological pathway. The authors used this theory as a framework in which they could explain why women developed PTSD more than men, and why trauma severity impacted women more than men (Luxton et al., 2010).

In additional research, the association between cognitive vulnerability and PTSD symptoms has been examined (Elwood et al., 2009). The association between negative attributional style, anxiety sensitivity, and symptoms of PTSD were examined (Elwood et al., 2009). The diathesis-stress model of PTSD was used as the theoretical framework of the study as this model asserts that individuals who have more vulnerabilities (ecological or biological) are at higher risk to develop PTSD (McKeever & Huff, 2003). The vulnerabilities Elwood et al. (2009) examined were negative attributional style and anxiety sensitivity, which are personal ecological diatheses. Higher levels of cognitive vulnerabilities (negative attributional style and anxiety sensitivity) were associated with more symptoms of PTSD by linking the diathesis–stress model of PTSD with the influence of ecological diathesis on the development of PTSD (author, year). Elwood et

al. found that negative attributional style and anxiety sensitivity predicted increases in the avoidance and numbing symptoms, which the authors noted in light of the diathesis–stress model of PTSD.

Rationale for the choice of this theory. The diathesis–stress model of PTSD (McKeever & Huff, 2003) contributes to understanding why some people will develop PTSD and others will not while facing the same trauma, such as chronic terror attacks. The model allows incorporation of many different ecological factors to explain the etiology of PTSD. The aim of this study was to assess the impact of the three different ecological factors (sense of community, religiosity, and ideology) on PTSD symptoms. According to the diathesis–stress model of PTSD (McKeever & Huff, 2003), these ecological factors influence the development of PTSD in chronic terror attack situations, and may allow researchers to explain the connection between these ecological factors and PTSD symptoms, if such a connection were found.

Relation of the diathesis–stress model to this study. Sense of community is an ecological factor that might influence the cognitive perception of stress (Gelkopf et al., 2012). People with a higher sense of community might perceive terror-related stressors as less threatening, and as a result, their neurochemical reaction to terror-related stressors might be different, and they might experience fewer symptoms of PTSD (author, year). Ideology is another ecological factor that might impact vulnerability to develop PTSD (Oren & Possick, 2010). Ideological commitment assigns meaning to highly stressful situations, and, as a result, highly stressful experiences might be cognitively perceived as less stressful for people with high levels of ideological commitment, and their trauma

severity might be reduced (Oren & Possick, 2010). In addition, ideology generates feelings of pride and belonging, which can decrease vulnerability to stress (Oren & Possick, 2010). Religiosity is an additional ecological factor that might change the cognitive perception of terror-related events (Palmieri et al., 2008). Ultrareligious people do not perceive war as a matter of human control; they trust God and perceive terror as acts of God (Palmieri et al., 2008). Therefore, the diathesis–stress model of PTSD provides a framework in which research questions concerning the impact of these variables on PTSD symptomatology in chronic terror attack situations can be generated.

Literature Review Related to Key Variables and Concepts

Sense of Community

Sense of community is defined by McMillan and Chavis (1986) as a feeling that members of a certain group have of belonging and of being important to each other, and a shared belief that the needs of members will be met by the collective. The model of sense of community consists of four dimensions: membership, influence, fulfillment of needs, and emotional connection (Chipuer & Pretty, 1999). The first of three components of membership is emotional safety, which is created by community empathy, understanding, and caring. The second component of membership is a sense of belonging, which is a faith of a member that he or she will belong, accompanied by an experience of acceptance. The third component of membership is identification with the group. The second dimension of sense of community is called influence, which is a reciprocal relationship between a member and the group; that is, the member and the group have an ability to change each other. The third dimension of sense of community is fulfillment of

needs. Members get their needs met through cooperation within members of the group. The fourth component of sense of community, called emotional connection, is a contact with high quality interaction and the emotional support stemming from such interactions (McMillan, 1996).

The Sense of Community Index. As will be discussed in more depth in Chapter 3, sense of community was measured in this study by the SCI (Chipuer & Pretty, 1999). The SCI was developed to assess these four dimensions mentioned above. This scale has 12 true/false items. Each dimension of membership, influence, fulfillment of needs, and emotional connection is represented by three items.

Protective effect of kibbutzim. A kibbutz (plural, *kibbutzim)* is a unique, Israeli community based on cooperation, mutual support, and complete equality for its members. The Otef Aza region is composed mainly of kibbutzim. All of the property belongs to the collective, not to the individual. Each member has a different role such as farmer, physician, teacher, herdsman, and so on. Each member receives the same allowance from the Kibbutz each month, no matter what his or her role. These communities share a socialistic ethos and are based on a model of social cohesiveness. Residents of these communities enjoy high solidarity, mutual support, and feel supported via the collective culture of their communities (Lev-Wiesel, 2003).

Gelkopf et al. (2012) and Stein et al. (2013) found that residents of Israeli kibbutzim who were exposed to the same 7 years of daily mortar fire as urban residents of Sderot had a significantly lower rate of PTSD. A little more than one third of urban residents of Sderot had PTSD symptoms, while only 6.6% of rural community residents

had PTSD (Stein et al., 2013). Essentially, residents of exposed rural community regions had the same rates of PTSD as residents of non-exposed regions (Gelkopf et al., 2012; Stein et al., 2013). In addition, residents of rural community regions did not show a dose-response relationship, while Sderot residents did show a dose-response relationship (Stein et al., 2013). This suggests the need for further research into the unique features of kibbutzim in Israel that may contribute to protecting their residents from developing PTSD despite daily rocket fire exposure since 2000.

The residents of the Otef Aza kibbutzim are theoretically high on the four dimensions of sense of community. Indeed, McMillan and Chavis (1986) compared levels of sense of community between members of a kibbutz in the Galilee called Kfar Blum, and the residents of two, urban Maryland communities. As predicated, McMillan and Chavis found that higher levels of sense of community were found in the kibbutzim than in the two American towns. Therefore, sense of community is an appropriate concept to capture part of the uniqueness of members of an Israeli kibbutz such as Otef Aza, particularly because researchers have not directly tested the association between sense of community and PTSD symptoms in Sderot residents.

Sense of community and PTSD in previous research. In various studies, researchers (Ajdukovic et al., 2013; Ben-Porat et al., 2013; Ben-Porat & Itzhaky, 2008; Benyard & Williams, 2007; Blumstein et al., 2004; Braun-Lewensohn & Sagy, 2014; Cicognani et al., 2009; Cowman et al., 2004; Davidson & Cotter, 1991; Dekel & Nuttman-Shwartz, 2009; Gapen et al., 2011; Greenfield & Marks, 2010; Hautamäki & Coleman, 2001; Hawkins & Maurer, 2011; Hobfoll et al., 2002; Huang & Swong, 2014;

Kia-Keating & Ellis, 2007; Kimhi & Shamai, 2004; Kovatz et al., 2006; Moscardino et al., 2010; Muldoon & Downes, 2007; Nuttman-Shwarts & Dekel, 2009; Prezza et al.,2001; Wayment, 2004) demonstrated the protective effect of sense of community on the mental health of people exposed to traumatic events. However, a direct examination of the correlation between sense of community and PTSD symptomatology has not been conducted in residents of Sderot.

Sense of community, PTSD, and terror attacks. Moscardino et al. (2010) found in the context of the 2004 Beslan, Russia, terrorist attack on a school that a higher sense of community was negatively correlated with depressive symptoms following the traumatic incident. The Moscardino et al. study was conducted on 158 adolescent survivors 18 months after the terror attack. The authors measured sense of community by the SCI and depressive symptoms by the Brief Symptom Inventory-18. In the male group, sense of community was negatively related to depressive symptomatology (Moscardino et al., 2010).

Hautamäki and Coleman (2001) claimed that in Finland, a low prevalence of PTSD (lower than 10%) among World War II veterans had been found. For comparison, in the United States of America (USA), 30 % of World War II veterans had PTSD (Hautamäki & Coleman, 2001). The authors (Hautamäki & Coleman, 2001) were interested to find the reasons for the low prevalence of PTSD among World War II veterans in Finland. They conducted their study on 30 World War II veterans from Southern Finland. They measured PTSD symptoms by the Impact of Event Scale-Revised (Weiss & Marmar, 1996). In addition, a qualitative interview was conducted with these

veterans. Hautamäki and Coleman (2001) found in accordance with their prediction, that only 10% of the participants met the criteria for PTSD. In their qualitative analysis they received main themes of strong community spirit, social solidarity, strong emotional bonds among soldiers during the war, and deep collective responsibility. They concluded that these factors might protect Finish war veterans against PTSD and contributed to the low prevalence of PTSD among them (Hautamäki & Coleman, 2001).

Ajdukovic et al. (2013) searched for the factors responsible for a recovery from PTSD. They conducted a qualitative study on 38 people who were mentally affected by the war in the former Yugoslavia. They conducted in depth interviews with two groups: 26 people who had recovered from PTSD, and a second group of 17 people with ongoing PTSD symptoms. Their analysis revealed that social attachment and community involvement were main themes which participants reported to be helpful for their recovery (Ajdukovic et al., 2013). Participants who recovered from PTSD described social attachment and emotional bonding to others as important factors for their healing process. In addition, Ajdukovic et al. found that only recovered participants reported community involvement. The recovered participants derived strength from their community involvement and described it as an essential component for their recovery. Community involvement helped participants with normalization of everyday life (Ajdukovic et al., 2013), which supported a previous research by Dekel and Nuttman-Shwartz (2009), who concluded that the community cohesion of a kibbutz helped its members to cope with stress by promoting normalization of everyday life in spite of ongoing incidence of terror.

Kia-Keating and Ellis (2007) found that a sense of school belonging was associated with lower depressive symptoms in young refugees who had been exposed to many stressors related to war. The study was conducted with 76 Somali adolescents, aged 12-19 years, who resettled in greater Boston, MA, and Portland, ME. These adolescents experienced civil war and political instability, witnessed violence, saw people severely injured, and experienced other various war related stressors. Kia-Keating and Ellis measured exposure to violence and adversity experienced in the context of war, by the War Trauma Screening Scale (Layne, Stuvland, Saltzman, Djapo, & Pynoos, 1999). Adolescents' sense of school belonging was measured by the psychological sense of school membership (Kia-Keating & Ellis, 2007). Depressive symptoms were measured by the Depression Self-Rating Scale (Asarnow & Carlson, 1985). PTSD symptoms were measured by the UCLA PTS index for the *Diagnostic and Statistical Manual-IV* (Kia-Keating & Ellis, 2007). Exposure to adversities was associated with increased levels of PTSD and depression symptoms and sense of school belonging was associated with lower levels of depression symptoms (Kia-Keating & Ellis, 2007). There was no association between sense of school belonging and levels of PTSD symptoms. The authors concluded that sense of school belonging, commitment, involvement, and belief in school, might reduce depression symptoms in these adolescents following exposure to war-related stressors. Kia-Keating and Ellis suggested that the reason they did not find an association between sense of school belonging and PTSD symptoms was that PTSD was strongly associated with past trauma history. The fact that the adolescents experienced a sense of school belonging only after the trauma ended, prevented the sense of school

belonging from impacting symptoms of PTSD (Kia-Keating & Ellis, 2007). In my study, sense of community was measured in close proximity to the ongoing traumatic incidents of terrorism in Sderot.

Wayment (2004) found that collective helping behaviors 3 to 5 weeks following the September 11 terrorist attack reduced emotional distress (disaster-focused distress) 5 months later. Wayment conducted her study on 227 Northern Arizona University students, aged 18-52 years. She measured emotional distress (disaster-focused distress) by the Texas Inventory of Grief (Wayment, 2004). Collective helping was measured by participants' self-report of community-based activities. If a participant engaged in at least one collective helping activity, he or she was given a 1; otherwise, he or she was given a 0. Wayment found that women who engaged in collective helping behaviors between 3 and 5 weeks after the September 11 terrorist attack had a faster decline in emotional distress (disaster-focused distress) 5 months later. Wayment (2004) concluded that community involvement and collective helping might have an important role in an alleviation of distress following a collective loss. She (2004) claimed that collective helping facilitates collective unity which is an important strategy for recovery from collective trauma.

Sense of community, PTSD and Northern Ireland's chronic political violence. Northern Ireland residents experienced an ongoing civil conflict that began in 1968 and lasted for more than 30 years (Bunting et al., 2013). During this civil conflict there were 3,737 deaths, 48,000 people injured, 34,000 shootings, and 14,000 bombings (Bunting et al., 2013). Thirty-nine percent of Northern Ireland residents experienced a conflict-

related event such as witnessing of a death or a serious injury following a terror attack (Bunting et al., 2013) and 15% of those who experienced a conflict-related traumatic event in Northern Ireland had PTSD (Bunting et al., 2013).

Muldoon and Downes (2007) discovered that social identification and community solidarity were negatively associated with PTSD among residents of post-conflict Northern Ireland who lived in Northern Ireland during the civil conflict, and experienced an ongoing political conflict. PTSD was measured by the Specific Stress Version of the PTSD Checklist (Weathers et al., 1994). National identity was measured by a four-item questionnaire named the Collective Self-Esteem Scale (2007). In accordance with the findings of Bunting et al. (2013), about 10% of the participants met the criteria for PTSD (Muldoon & Downes, 2007). In addition, people with a higher level of national identity had a lower rate of PTSD than people with a lower level of national identity. The authors concluded that social identity and community solidarity might protect mental health in situations of ongoing incidents of terror and chronic political violence.

Wilson, Poola, and Trew (1997) found that only 5% of Northern Ireland police officers who were exposed to life-threatening incidents during the ongoing civil conflict met the criteria for PTSD. The study was conducted on 95 police officers involved in terrorist-related critical incidents during the Northern Ireland civil conflict. These officers were exposed to large bomb explosions, mortar attacks, missile attacks, shootings with fatalities, and so forth (Wilson et al., 1997). PTSD was assessed by the modified PTSD Symptoms Scale Self-Report (Wilson et al., 1997). Daly and Johnston (2002) found that

67% among those who were held at gunpoint in a Northern Ireland bar in March 1997 during the civil conflict met the criteria for PTSD.

Unclear is what protected the mental health of Northern Ireland police officers who were exposed to life threatening incidents during the civil conflict. Muldoon and Downes (2007) suggested that community solidarity was an important factor in preserving Northern Ireland police officers' mental health in a situation of exposure to chronic political violence. Muldoon and Downes argued that the factors that distinguished police officers in Northern Ireland during the civil conflict were strong identification with their police force community, and a strong commitment to this identity.

Sense of community, PTSD, and natural disasters. Huang and Swong (2014) found that survivors of the 2008 Wenchuan earthquake who had a higher sense of community experienced higher levels of life satisfaction and lower levels of depression following the disaster. The study was conducted on 304 of the earthquake survivors. The authors hypothesized that sense of community would associate positively with life satisfaction and negatively with depression following the traumatic event. The authors measured depression by the 10-item Center for Epidemiologic Studies Depression Scale (1999) and sense of community by the Brief Sense of Community Scale (2008), a shorter version than the SCI, and assessed the four dimensions of sense of community. Life satisfaction was measured by the five-item Satisfaction with Life Scale (Huang & Swong, 2014). As hypothesized, sense of community was associated positively with life

satisfaction and negatively with depression following the traumatic incident (Huang & Swong, 2014).

Hawkins and Maurer (2011) conducted a qualitative study on 40 heads of households who lived in New Orleans during Hurricane Katrina. The main factor that affected their sense of safety was a strong sense of loss of community. Sense of loss of community and sense of loss for places were more common themes than loss of property (Hawkins & Maurer, 2011). The importance of community was often expressed and was emphasized by the participants, who reported that being separated from their community was a great source of psychological distress (Hawkins & Maurer, 2011). Participants found psychological comfort in remembering their communities before the disaster and the sense of security and safety they represented (Hawkins & Maurer, 2011).This study demonstrated the importance of sense of community in the establishment of sense of safety and security and in preventing psychological distress. In spite of the fact that these studies were conducted in the context of post natural disasters, they may help to better understand post terror psychological adjustment. These studies demonstrated the role of sense of community in the reduction of psychological distress and promotion of psychological adjustment following traumatic incidents.

Sense of community, PTSD, and prolonged domestic violence. Greenfield and Marks (2010) found that sense of community was a protective factor against long-term psychological effects of childhood violence. A total of 4,055 adults between the ages of 25 and 74 completed both the telephone survey and the self-administered questionnaire. Three thousand, twenty-four hundred participants completed the 1995 National Survey of

Midlife Development in the United States and 1,031 completed the 1996- 97 National Study of Daily Experiences (NSDE) (Greenfield & Marks, 2010). Physical and psychological violence in childhood from parents was measured by the Conflict Tactics Scales (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), while psychological distress was measured by a scale new to the NSDE that was developed from several well-known and validated instruments. Sense of community was measured by a three-item scale that measures levels of sense of community. Greenfield and Marks found that participants who reported violence from parents in childhood, demonstrated higher levels of psychological distress than participants who did not report violence from parents in childhood. In addition, the authors found that sense of community was inversely related to psychological distress. Participants who reported higher levels of sense of community had lower levels of psychological distress. The main finding of this research was that sense of community beneficially moderated the association of experiences of violence in childhood with psychological distress. Sense of community served as a protective factor against long-term psychological effects of childhood violence. Strong sense of community promoted mental health in people who experienced a prolonged trauma (Greenfield & Marks, 2010). Greenfield and Marks concluded that sense of community might serve as a protective factor against different kinds of traumatic events. The authors believed that strong sense of community can protect against the processes through which experiences of traumatic incidents impact long-term mental health. Therefore, this study is relevant not only for the understanding of the involvement of sense of community in mitigation of the psychological impact of prolonged childhood abuse but also for the

understanding of the role of sense of community in alleviation of the psychological impact of prolonged exposure to political violence.

Benyard and Williams (2007) found that positive functioning was related to positive sense of community in survivors of child sexual abuse. Two hundred six participants took part in three quantitative structured interviews and a following in-depth qualitative interview, and 21 participants were interviewed in the qualitative part (Benyard & Williams, 2007). All of the participants were female survivors of sexual abuse. A positive correlation was found between sense of community and positive functioning. Participants who felt part of their community and who belonged to any social organization were higher on positive functioning compared to participants that had a lower level of sense of community (Benyard & Williams, 2007). Sense of community and a sense of competence and efficacy, achieved through shared connections with others in the community, promoted recovery (Benyard & Williams, 2007).

Ben-Porat and Itzhaky (2008) discovered in a study that was conducted on 77 traumatized women from battered women's shelters in Israel that commitment to the community of the shelter and involvement in the shelter were predictors for life satisfaction. Life satisfaction was measured by a questionnaire developed by Campell (Ben-Porat & Itzhaky, 2008). Commitment to the community was measured by a questionnaire developed by Cool and Wall (Ben-Porat & Itzhaky, 2008). These findings demonstrated the importance of community participation and involvement in the mental health of traumatized people.

Sense of community and chronic exposure to critical incidents. Cowman et al. (2004) found that sense of community was negatively related to firefighters' caregiver stress and positively related to caregiver satisfaction. The study was conducted with 221 firefighters from fire departments in Maryland. Firefighting is a life-threatening, high pressure occupation with various work-related stressors (Cowman et al., 2004). Cowman et al. measured sense of community with the 30-item Perceived Sense of Community Scale. Caregiver satisfaction and caregiver stress were measured by the 14-item Caregiver Scale. The authors found that firefighters with higher levels of sense of community had lower levels of caregiver stress and higher levels of caregiver satisfaction than firefighters with lower levels of sense of community. Cowman et al. (2004) concluded that sense of community is important in mitigation of stress and its impact.

In a study of 764 Italian emergency workers who repeatedly had been exposed to traumatic events, sense of community was positively correlated with quality of life (Cicognani et al., 2009). Emergency workers are at risk for posttraumatic psychological difficulties such as PTSD as a result of exposure to critical incidents (Cicognani et al., 2009). Cicognani et al. (2009) assessed sense of community by the Italian Sense of Community Scale. Quality of life was assessed by the Professional Quality of Life Scale, Compassion Satisfaction, and Fatigue Subscales-Revision IV. Sense of community was positively associated with quality of life, and concluded that sense of community had a protective effect against stress which derived from daily exposure to traumatic events (Cicognani et al., 2009).

Sense of community, PTSD, and high stress circumstances. Gapen et al. (2011) found in a study of a low-income, urban, African American population that community cohesion was negatively associated with PTSD symptoms. Gapen et al. measured PTSD symptoms by the Modified PTSD Symptom Scale (Falsetti, Resnick, Resick, & Kilpatrick, 1993) and community cohesion by the Community Cohesion Scale (Hipp, & Perrin, 2006). Community cohesion was negatively associated with PTSD symptoms while controlling for previous trauma exposure. Gapen et al. hypothesized that sense of community may increase trust and decrease hyper arousal associate with the development of PTSD.

Hobfoll et al. (2002) discovered that women with high levels of sense of community experienced a smaller increase in depressive symptoms and anger when faced with high stress circumstances compared to women with lower levels of sense of community. Individuals' sense of group membership and the belief that success occurs as a consequence of a collective effort had a protective effect against stress (Hobfoll et al., 2002). Women who were high in sense of community were less negatively impacted by high stress circumstances as compared to women who were low in sense of community. The study was conducted on 103 Native American women living in Montana. The women were between the ages of 16 and 29. Sense of community was measured by a Communal-Mastery Scale (Hobfoll et al., 2002). Communal mastery and sense of community are intertwined concepts (Greenfield & Marks, 2010). Stress circumstances were measured by the Conservation of Resources Evaluation (Hobfoll et al., 2002). Depressive symptoms were measured by the Profile of Mood States (Hobfoll et al.,

2002), and anger by the State-Trait Anger Expression Inventory (Spielberger, 1988). Individuals with strong attachment to their community derived a sense of mastery from this strong attachment and experienced a less negative effect of increasing stress levels, because they perceive themselves as part of a cohesive social network (Hobfoll et al., 2002). Thus, sense of community appears to be a critical resource against the psychological impact of stressful conditions (Hobfoll et al., 2002).

Sense of community and well-being. Blumstein et al. (2004) demonstrated the benefits of a communal lifestyle on depressive symptoms in old-age kibbutz residents. The study was based on data obtained from a cross-sectional and longitudinal aging study. Blumstein et al. found that kibbutz elderly, female residents had a lower level of depression than elderly residents in other communities. Depression was assessed by a modified version of the Center for Epidemiological Studies Depression Scale (Blumstein et al., 2004). Elderly, female kibbutz residents had lower depression rates and a slower rate of increase in depression with older age, as compared to elderly living in other communities (Blumstein et al., 2004). Blumstein et al. concluded that community cohesion and involvement in community roles had a protective effect on mental health.

Prezza et al. (2001) found that sense of community is related to life satisfaction. The study was conducted on three different communities located in central Italy. Six hundred thirty participants, aged 20-65 years, participated in this study. Sense of community was measured by an Italian translation of the Sense of Community Scale (Prezza et al., 2001). Life satisfaction was measured by an Italian translation of the Satisfaction With Life Scale (Prezza et al., 2001). Prezza et al. found a significant

relationship between sense of community and life satisfaction in participants living in all of the three different communities, and concluded that sense of community might have a significant role in subjective well-being and mental health of adults regardless of their type of community.

Davidson and Cotter (1991) discovered that sense of community is significantly related to subjective well-being. Their study was conducted on 992 adult participants ages 18 years and older from Alabama and South Carolina. Sense of community was measured by the Sense of Community Scale (Davidson & Cotter, 1991). Subjective well-being was measured by a questionnaire that measured three facets of subjective sense of well-being; happiness, worrying, and coping (Davidson & Cotter, 1991). Davidson and Cotter found a significant positive relationship between sense of community and subjective well-being. Participants who were high on sense of community reported that they were happier, calmer, had lower levels of worry, and were able to cope better with bad things that happened to them (Davidson & Cotter, 1991). The authors concluded that sense of community might be important for mental health.

Sense of community, PTSD, and chronic Israeli wars. Sense of belonging is one component of the membership dimension of sense of community (McMillan, 1996). Nuttman-Shwarts and Dekel (2009) found that a higher level of sense of belonging to the college was negatively related to PTSD symptoms among college students living in an exposed next to Sderot. Symptoms of PTSD were measured by the Post-Traumatic Stress Disorder Inventory (Nuttman-Shwarts & Dekel, 2009). Sense of belonging was measured by the Sense of Belonging Scale (Nuttman-Shwarts & Dekel, 2009). Higher levels of

sense of belonging were associated with lower levels of PTSD. Interestingly, and in accordance with other researchers (Gelkopf et al., 2012; Stein et al., 2013) Nuttman-Shwarts and Dekel (2009) found in their study that 26% of the students from Sderot had PTSD while only 6% of the students from rural regions had PTSD. In addition, in their analysis, they found that students from a rural region reported higher levels of belonging (Nuttman-Shwarts & Dekel, 2009).

Ben-Porat et al. (2013) identified factors that contributed to terror-induced trauma among adolescents. The study was conducted on 1,004 Israeli high school students, aged 14-18. All of the participants were residents of exposed areas (next to Sderot and Gaza strip) that have been a target for daily rocket attacks (Ben-Porat et al., 2013). PTSD symptoms were assessed by the child posttraumatic stress reaction index (Ben-Porat et al., 2013). Participation in the community was measured by a questionnaire that assessed students' levels of participation in different activities in school (Ben-Porat et al., 2013). The authors found that community participation was significantly related to lower levels of PTSD symptoms, and suggested participation in the community is an environmental factor that alleviates stress (Ben-Porat et al., 2013). Active participation in the community, the authors concluded, facilitated the development of significant relationships between the individual and the community, which impacted vulnerability to PTSD. In situations of ongoing trauma people might benefit from community participation, which promotes a sense of belonging (Ben-Porat et al., 2013).

Kovatz et al. (2006) found that sense of belonging to the country might be associated with lower level of anxiety during a period of terror (not connected to the

terror in Sderot). A total of 40 Israeli students and 26 Americans medical students in an Israeli university participated in the study. The authors (Kovatz et al., 2006) measured anxiety levels by the 28-item General Health Questionnaire. The authors measured changes in daily activities and sense of fear (Kovatz et al., 2006). They found that Americans students reported a higher level of anxiety, a higher level of fear, and a greater degree of change in their daily routine in response to the threat of terror (Kovatz et al., 2006). In addition, they found that Israeli students reported higher levels of sense of belonging to the country. The authors claimed that sense of belonging to the country moderated levels of distress experienced by these students and suggested that sense of belonging to the country may explain the difference in anxiety levels between these two groups in response to the threat of terror.

Kimhi and Shamai (2004) discovered that a perception of the community as able to cope with changes was related to individuals' ability to resist stressors. The study was conducted in the context of the withdrawal of Israel from Lebanon. In May 2000, Israel withdrew from Lebanon unilaterally. The withdrawal of Israel from Lebanon was a source of fear for people living in the vicinity of the border in a situation of war and terror for years (Kimhi & Shamai, 2004). The authors examined the relation between the perception of the community as able to cope with the new political situation, stress symptoms, and life satisfaction. The study was conducted within 3 weeks after the Israeli army withdrew from Lebanon (Kimhi & Shamai, 2004). A total of 741 adults, aged 18-85, from four communities participated in this study. Three of the communities were exposed to threats from Lebanon and one community was not exposed to threats from

Lebanon. Perception of the community as able to cope with the new political situation was measured by a questionnaire designed specifically for this study (Kimhi & Shamai, 2004). Stress symptoms were measured by the short version of brief symptom inventory (Kimhi & Shamai, 2004). Life satisfaction was measured by one question about life satisfaction (Kimhi & Shamai, 2004). Perception of the community as able to cope with the new political situation served as a mediator between levels of threat and its impact (Kimhi & Shamai, 2004). For participants who lived in the exposed communities, those who were higher on the perception of the community as able to cope with the new political situation were higher on life satisfaction and had less stress symptoms as compared to those who were lower on the perception of the community as able to cope with the new political situation (Kimhi & Shamai, 2004). Kimhi and Shamai concluded that perception of the community as able to cope with political issues was positively related to mental health and wellbeing of individuals who lived in a situation of war and terror for years, and was linked to individual's ability to resist stressors.

Dekel and Nuttman-Shwartz (2009) found that sense of belonging to the country alleviated posttraumatic distress in a kibbutz located next to Sderot. The study was conducted with 67 Sderot residents and 67 kibbutz residents. The authors measured sense of belonging to the country by a 12-item scale for sense of belonging to the country. PTSD was measured by the PTSD Inventory (Dekel & Nuttman-Shwartz, 2009). In accordance with the findings of Gelkopf et al. (2012) and Stein et al. (2013), Dekel and Nuttman-Shwartz (2009) found that residents of Sderot reported more post-traumatic stress symptoms than residents of kibbutz. Interestingly, Dekel and Nuttman-Shwartz

(2009) found no difference in levels of sense of belonging to the country between Sderot residents and residents of kibbutz. Another important finding was that sense of belonging to the country mitigated PTSD symptoms among kibbutz residents to a greater extent than among Sderot residents (Dekel & Nuttman-Shwartz, 2009). Dekel and Nuttman-Shwartz concluded that kibbutz ideology and communal lifestyle provided a protection against stress for its members. In addition, community cohesion of kibbutz helped its members to cope with stress by reducing isolation and normalizing suffering (Dekel & Nuttman-Shwartz, 2009). The authors suggested that the importance of mutual commitment to one another and kibbutz ideology might be an important factor that protected kibbutz members against the impact of exposure to ongoing incidents of terror.

The main weakness of this study was that Dekel and Nuttman-Shwartz (2009) used sense of belonging to the country, which did not distinguish between kibbutz members and Sderot residents. Sense of belonging to the country measured sense of belonging to Israel ("I feel part of the country") and commitment to Israel ("I won't leave the county even if the security situation deteriorates") (Dekel & Nuttman-Shwartz, 2009). This measure did not capture the uniqueness of kibbutz relative to residents of other areas, and indeed no difference in levels of sense of belonging to the country between the two groups was found. Sense of community is a more appropriate measure to capture the uniqueness of kibbutz, because it measures feelings of belonging, commitment, emotional connection, fulfillment of needs and so on, in the framework of the community and not of the whole country (Chipuer & Pretty, 1999).

Braun-Lewensohn and Sagy (2014) examined the impact of perceived community resilience on stress reactions in rural and urban residents living under continuous terror attacks, in the vicinity of Sderot. In accordance with previous research (Dekel & Nuttman-Shwartz, 2009; Gelkopf et al., 2012; Stein et al., 2013), Braun-Lewensohn and Sagy found that rural residents had less severe stress reactions than urban residents. In addition, they found that rural residents had a higher level of perceived community resilience. However, perceived community resilience was linked to stress reactions only in rural residents. No relationship between perceived community resilience and stress reactions was found in urban residents (Braun-Lewensohn & Sagy, 2014). The study was conducted on 150 Israeli citizens, aged 15-85 living in an area under attack. Fifty-four participants lived in an urban area and 96 participants lived in a rural area. Stress reactions were assessed by state anxiety and psychological distress (SPD) (Braun-Lewensohn & Sagy, 2014). Perceived community resilience was measured by conjoint community resilience assessment measure (CCRAM) (Braun-Lewensohn & Sagy, 2014). CCRAM is a scale on a 5-point Likert-type scale ranging from *Do not agree at all* to *Definitely agree* (Braun-Lewensohn & Sagy, 2014). Examples of items in the CCRAM are "I believe that my community has the ability to overcome crisis," "citizens will continue to have municipal services during crisis," "the municipality gives decent services," and "officials will exhibit leadership in times of crisis" (Braun-Lewensohn & Sagy, 2014). CCRAM measures the belief that the community is able to cope successfully with threats (Braun-Lewensohn & Sagy, 2014). Interestingly, perceived community resilience was related to stress reactions only in rural residents. The authors

concluded that urban residents were more individualistically oriented and they less relied on communal resources in order to cope in times of threat as compared to rural residents, and because of that perceived community resilience was not associated with stress reactions for urban residents.

Perceived community resilience does not capture the uniqueness of rural communities which protects them from PTSD in the context of the ongoing war. Rural communities are uniquely characterized by community cohesion, involvement in community, social solidarity and sense of belonging (Blumstein et al., 2004; Dekel & Nuttman-Shwartz, 2009; Gelkopf et al., 2012; Stein et al., 2013) constructs that are better measured by the sense of community index (Chipuer & Pretty, 1999). In addition, the authors (Braun-Lewensohn & Sagy, 2014) concluded that because of the fact that urban residents were more individualistically oriented, perceived community resilience was not associated with stress reactions for them. Therefore, there is a need to make the concept of individual orientation as an independent variable, and to measure its impact on PTSD symptomatology. SCI measures the degree people get their needs met through cooperation within members of the group, and the degree of their communal orientation versus individual orientation (Chipuer & Pretty, 1999).

The literature (Ben-Porat et al., 2013; Braun-Lewensohn & Sagy, 2014; Dekel & Nuttman-Shwartz, 2009; Gelkopf et al., 2012; Kimhi & Shamai, 2004; Kovatz et al., 2006; Nuttman-Shwarts & Dekel, 2009; Stein et al., 2013) thus supports the assumption that sense of community might be negatively associated with PTSD symptomatology for Sderot residents who have been exposed to chronic terror attacks. However, a direct

examination of the correlation between sense of community and PTSD symptomatology has not been conducted in this context.

Ideology

Ideology is a diffusive concept in social science literature (Jost, Federico, & Napier, 2009). There is no definite definition of the concept ideology. Ideology is a broad definition that refers to political, moral, and religious belief systems (Oren & Possick, 2010). Ideology is set of beliefs which allow people to create a conceptual framework in which they can organize, interpret, understand the world, and construct meaning from the world (Jost, Federico, & Napier, 2009). As there is no agreed upon measure in the literature about ideology, researchers assess ideology by using scales specifically designed for their population which are suitable for the specific sociopolitical context of their population (Shechner, Slone, & Bialik, 2007). In addition, there is a paucity of research on the association between ideology and the effects of traumatic incidents (Oren &Possick, 2010).

Ideology and PTSD in previous research. In various studies, researchers (Garbarino et al., 1991; Kanagaratnam et al., 2005; Kaplan et al., 2005; Khamis, 2012; Laor et al., 2004; Laor et al., 2006; Lauer & Solomon, 2008; Muldoon & Wilson, 2001; Oren &Possick, 2010; Punamäki, 1996; Punamäki, et al., 2001) demonstrated the involvement of ideology in the development of PTSD in people exposed to war-related stressors. Researchers (Garbarino et al., 1991; Kanagaratnam et al., 2005; Kaplan et al., 2005; Khamis, 2012; Muldoon & Wilson, 2001; Oren & Possick, 2010; Punamäki, 1996) have shown that ideological commitment, in particular, might be associated with less

PTSD symptoms in people exposed to war-related stressors. However, a direct examination of the correlation between ideology and PTSD symptomatology has not been conducted for residents of Sderot.

Ideology, PTSD, and the Israeli-Palestinian conflict. Khamis (2012) found in a study that was conducted on residents of the Gaza strip that ideology was negatively correlated with depression and anxiety. Khamis suggested that ideology might have served as a protector against anxiety and depression and may have provided a belief system that allowed residents of the Gaza strip to deal better with war-related stressors. The study was conducted on 300 adolescents from Gaza Strip. Khamis measured ideology by a self-developed scale. Anxiety and depression were measured by the Revised Children's Manifest Anxiety scale (Reynolds, & Richmond, 1985) and the Beck Depression Scale (1998). Khamis's ideology scale measured concepts related to religion. It measured commitment to religion as faith and practice, and commitment to religious principles. Khamis claimed in the discussion that religiosity and ideology work in tandem among Shia Muslims (Khamis, 2012).

Oren and Possick (2010) argued that ideological commitment has a protective effect on the mental health of Holocaust survivors, and ideological commitment increased the ability of people to cope in stressful situations. Ideological commitment may increase the ability to cope effectively in stressful situations by assigning meaning to these situations. Additionally, acting according to ideological commitment may be a protective factor against stress by generating feelings of pride and belonging (Oren & Possick, 2010).

Kaplan et al. (2005) assessed residents of three different types of population centers in Israel during 2003 and 2004. They assessed stress related response in residents of Gush-Katif, Kiryat-Arba and Tel-Aviv. Gush-Katif and Kiryat-Arba are settlements beyond the 1967 borders of Israel and their residents have been exposed to daily war-zone conditions (Kaplan et al., 2005). Gush-Katif was located next to the Gaza Strip (its residents were evacuated by the government in 2005) and Kiryat-Arba is in the West Bank. Gush-Katif and Kiryat-Arba were war zones areas characterized by daily threats and daily terrorist attacks such as snipers shooting, grenades throwing, mortar fire, missile attacks and roadside bombs (Kaplan et al., 2005). Tel Aviv is relatively a peaceful area, located in the heart of Israel, and its residents have been exposed to sporadic, large-scale terror attacks in the form of suicide bombing attacks during the 3 years prior to the Kaplan et al. study. Gush-Katif was composed exclusively of religious Jews with high levels of ideological commitment. Gush-Katif residents saw their settlement as an important ideological value (Kaplan et al., 2005). Kiryat-Arba is composed of secular people, new immigrants, and long-time Israelis with lower levels of ideological commitment regarding the settlement there, and religious people with higher levels of ideological commitment (Kaplan et al., 2005). Tel-Aviv is composed mainly of non-religious people with low levels of ideological commitment regarding settlements beyond the 1967 borders of Israel (Kaplan et al., 2005). The authors measured PTSD by the Post-Traumatic Stress Disorder Scale (Blake, Weathers, Nagy, Kaloupek, 1995). General psychiatric symptoms were measured by the Symptoms Checklist-90 (Kaplan et al., 2005). Acute stress response was measured by the Stanford Acute Stress Reaction

Questionnaire (Kaplan et al., 2005). Exposure to terrorist attacks was measured by an appropriate questionnaire (Kaplan et al., 2005).

Kaplan et al. (2005) found that residents of Gush-Katif had the highest levels of exposure to terrorist attacks. Prevalence of PTSD was not statistically different for the three samples and was about 10 %(Kaplan et al., 2005). However, Gush-Katif residents had a lesser degree of avoidance symptoms than the other two groups (Kaplan et al., 2005). Acute stress reactions were higher for Tel-Aviv residents than for Gush-Katif residents. Dissociative symptoms were less severe for Gush-Katif residents than for the other two groups. Intrusive and avoidance symptoms were higher for Kiryat-Arba residents than for the other two areas. Gush-Katif residents had a lower level of depression and anxiety as measured by the symptoms checklist-90 as compared to the other 2 groups. Tel-Aviv residents had a higher level of anxiety than in the other 2 groups (Kaplan et al., 2005). Once the population of Kiryat-Arba was reexamined according to religious conviction, the results for participants from Kiryat-Arba with higher levels of religious conviction (higher ideological commitment) became identical for Gush-Katif, whereas secular (lower ideological commitment) residents of Kiryat-Arba were more severely disturbed than Tel-Aviv residents (Kaplan et al., 2005). Of the secular (lower ideological commitment) residents of Kiryat-Arba, 19.4% had PTSD as compared with 5.9% in the religious (higher ideological commitment) population of Kiryat-Arba (Kaplan et al., 2005). The prevalence of acute stress symptoms was higher for Tel-Aviv and Kiryat-Arba residents than for Gush-Katif residents, in spite of the fact that Gush-Katif residents had the highest level of exposure to terrorist attacks of the three groups.

Once the symptoms scales were reexamined according to ideological belief variable, the data for the respondents with higher ideological commitment among the population of Kiryat-Arba were comparable to the data of Gush-Katif participants (Kaplan et al., 2005). The authors believed that ideological conviction is a major factor that improves coping of individuals in the face of ongoing condition of conflict and threat. Kaplan et al. argued that ideology instills the exposure to conditions of ongoing threats with existential meaning, and concluded that nationalistic/ideological commitment is an important protective factor against the negative psychological impact of ongoing conditions of conflict. Ideological commitment influences the subjective interpretation of traumatic experiences, the meaning attributed to them, and hence the response (Kaplan et al., 2005). Kaplan et al. determined that ideological commitment was a key element in residents of Gush-Katif, which enabled them to better adjust to conditions of conflict than residents of Tel-Aviv and Kiryat-Arba.

Notably, Kaplan et al. (2005) did not measure ideology. They obtained data about religiosity via demographic characteristics they collected, and hypothesized that religiosity is strongly associated with ideological commitment for residents of settlements beyond the 1967 borders of Israel.

Laufer and Solomon (2008) found that ideological intolerance was a positive predictor of PTSD. The study was conducted on 2,999 adolescents from across Israel who were not connected to the terror in Sderot. The Child Post-Traumatic Stress Reaction Index (Laor et al., 2006) was used to measure PTS; Lauer and Solomon assessed ideological commitment by a 20-statement, 4-point Likert-type scale questionnaire

devised for their study. The questionnaire assessed practical commitment ("I am willing to participate in demonstrations"), ideological commitment ("I am convinced that I will hold to my current political view when I am older"), and ideological intolerance ("I think that other political views should not be heard") (Lauer & Solomon, 2008). Laufer and Solomon hypothesized that ideology would affect coping and level of distress, and that strong identification with political causes might decrease vulnerability to PTSD because it ascribes meaning to the cause of terror. The results did not support the hypothesis that ideological commitment would be negatively associated with symptoms of PTSD. Boys expressed more ideological intolerance for others' views, and ideological intolerance had a positive correlation with PTSD for boys and girls (Lauer & Solomon, 2008).

Laor et al. (2006) examined the association between ideological commitment and PTSD symptoms in Israeli Jewish and Israeli Arab adolescents facing continuous terrorism unrelated to the terror in Sderot. The study was conducted on 1,105 Israeli adolescents from six different schools located in Tel-Aviv and the West Bank. PTSD was measured by the Child Posttraumatic Stress Disorder Reaction Index (Laor et al., 2006). Ideological commitment was measured by overall willingness to make sacrifices for the country (low-moderate-high). (Laor et al., 2006). Laor et al. hypothesized that an ideological belief would protect against clinical disturbance in trauma victims and would be associated with positive coping. Willingness to sacrifice was higher among girls living in the West Bank, and girls displayed the lowest percentage of severe PTSD symptoms. Laor et al. suggested ideology might be protective for girls living in the West Bank. However, for boys, ideological willingness to sacrifice for the country was associated

with severe PTSD symptoms, and ideology might provide adolescent girls with meaning and sense of purpose which may protect them against severe symptoms development. The authors concluded that ideological willingness to sacrifice for the country has a different impact for adolescent boys and girls exposed to continuous threat. Ideological willingness to sacrifice for the country might increase the need to be avenged, to take higher risks, and to increase violence in boys and, as a result, might be associated with severe PTSD symptoms (Laor et al., 2006).

Garbarino et al. (1991) argued that ideology is an important factor in sustaining the ability to function under extreme stress; for example, those who bore up the best in the Holocaust were those with high ideological commitment, which offered meaning impenetrable to extreme brutalization. In the Israeli-Palestinian conflict in the Gaza Strip and the West Bank, Islamic fundamentalists and extreme Zionists take comfort in their ideology (Garbarino et al., 1991). Ultra-orthodox Jews suffer less stress as a result of the Israeli-Palestinian conflict than secular Jews, because ultra-Orthodox Jews see the conflict in simple ideological terms—that is, the obligation to fulfill their Zionist dream of a greater Israel (Garbarino et al., 1991). In the same way, ideological commitment is an important psychological resource for Palestinians (return to the lands taken by Israelis in 1948). Ideological interpretation can play an important role in shaping the consequences of traumatic experiences, and might defend against the harsh reality of the Israeli-Palestinian conflict (Garbarino et al., 1991).

Punamäki (1996) examined the impact of ideological commitment on anxiety and depression levels of Israeli children exposed to political violence. Punamäki asserted that

two groups of people were less psychologically vulnerable in the concentration camps, religious Jews and communists. These two groups share one factor, ideological commitment, which could explain their endurance (Punamäki, 1996), which provides an explanation for why adversity happened to them (Punamäki, 1996). The study was conducted on 385 Israeli Jewish children, aged 10-13 from different areas across Israel. Ideological commitment was operationalized as glorification of war, patriotic involvement, and defiant attitudes toward the enemy, while anxiety and depression were measured by the psychosocial problems scale (Punamäki, 1996). Exposure to war experience was measured by an appropriate questionnaire (Punamäki, 1996). Strong ideological commitment was associated with lower levels of anxiety and depression. Weak ideological commitment was associated with higher levels of anxiety and depression, and exposure to war experiences increased anxiety and depression in the group with weak ideological commitment (Punamäki, 1996). However, no association between symptoms and exposure to war experiences was found in the group with strong ideological commitment. Punamäki (1996) concluded that ideological commitment enables children to construct meaning out of war-related experiences. Ideological commitment and making sense of war are protective factors for children who experience prolonged political violence.

Punamäki et al. (2001) examined the relationship between attitude and behavior preferences concerning the political violence and PTSD symptoms in Palestinian children. The study was conducted on 86 Palestinian children exposed to political violence. Emotional disorders were assessed by the Ontario Child Health Scale

(Punamäki et al., 2001). PTSD symptoms were measured by a 20-item scale. Exposure to political violence was assessed by an appropriate questionnaire developed by the authors. Attitude and behavior preferences concerning the political violence were assessed by a picture test developed by the authors. Punamäki et al. (2001) found that defiant attitudes toward the enemy (an active response) were associated with less symptoms of PTSD and lower levels of emotional disorders. Higher levels of exposure to traumatic events was linked to more PTSD symptoms. Punamäki et al. concluded that attitude and behavior preferences concerning the political violence impact PTSD symptoms in Palestinian children.

Laor et al. (2004) examined the relationship between attitudes toward Arabs by 82 Israeli children who were exposed to missile attacks during the Gulf War and PTSD symptoms, 6 months and 5 years after the war. Attitudes toward Arabs were assessed by a semi-structured interview, and PTSD symptoms were measured by the Child Post-Traumatic Stress Reaction Index (Laor et al., 2004). The authors found that children who expressed negative attitudes toward Arabs had more symptoms of PTSD 5 years after the war than children who expressed balanced attitudes toward Arabs. Thus, balanced political attitudes toward Arabs might be associated with mental health consequences of political violence (Laor et al., 2004).

Ideology, mental health and Northern Ireland's chronic terror attacks. Muldoon and Wilson (2001) assessed the impact of ideological commitment and experiences of conflict on the mental health of Northern Irish adolescents. The General Health Questionnaire (Goldberg, & Williams, 1988) and Rosenberg Self-Esteem Scale

(Rosenberg, 1965) were given to 95 adolescents form four schools located in Northern Ireland. Ideological commitment was operationalized and measured according to the scale devised by Punamäki (Muldoon & Wilson, 2001). Experience of political violence was assessed by an appropriate 10-items questionnaire (Muldoon & Wilson, 2001). The authors found that experience of conflict for the participants with high ideological commitment was associated with better mental health and higher self-esteem than for participants with low ideological commitment. Muldoon and Wilson concluded that ideological commitment plays a part in moderation the relationship between experience of political violence and mental health.

Ideological commitment and PTSD in Tamil soldiers. Kanagaratnam et al. (2005) examined the impact of ideological commitment on PTSD symptoms in 20 former Tamil child soldiers who fought against the Sri Lanka Sinhalese government. A child soldier was defined as a person under the age of 18 who participated in a war (Kanagaratnam et al., 2005). Exposure was measured by the Exposure Scale for Child Soldiers, and PTSD symptoms were measured by the impact of event scale (Kanagaratnam et al., 2005). Ideological commitment was investigated and measured by a semi-structured interview. Kanagaratnam et al. defined strong ideology by three components, in accordance with Punamäki (1996): justification of the Tamil struggle, non-ambivalent identification with participation as soldiers, and defiant attitudes toward the enemy. Weak ideology was defined by not justifying the struggle, ambivalent identification with participation, and nondefiant attitudes toward the enemy (Kanagaratnam et al., 2005). Strong ideological commitment was associated with less

PTSD among former child soldiers when exposure was less intense and overwhelming (none of the participants who had strong ideological commitment were among those with the highest exposure intensity). Those who had a stronger ideological commitment had less symptoms of PTSD than those who had a weaker ideological commitment. Kanagaratnam et al. concluded that ideological commitment had a significant impact on the development of PTSD among former child soldiers, and PTSD results from an individual's attempts to cope with the loss of meaning. A mismatch between assumptions of world and its reality, following an exposure to a traumatic event, results in disorganized memories as manifested in PTSD (Kanagaratnam et al., 2005). Ideological commitment integrates these shattered assumptions of the world into a set of beliefs that helps people adapt better, which led the authors to conclude that ideological commitment to a cause has a protective impact against PTSD in former combatants.

Ideology in the current study. One of the factors that distinguish rural communities from city communities in Israel is ideology (Dekel & Nuttman-Shwartz, 2009; Gelkopf et al., 2012; Stein et al., 2013). Residents of rural kibbutzim in Israel have a strong socialistic ideology, sense of mission, and see their way of life as an important value. Stein et al. (2013) and Gelkopf et al. (2012) explained their findings that residents of exposed rural communities had lower rates of PTSD compared to residents of the city Sderot, in part, by suggesting that a shared world view of socialism, socialistic ethos, and socialist ideology served as protective factors against PTSD.

A sense of community alone does not capture all of the uniqueness of Otef Aza residents. Ideology is another aspect that distinguishes Otef Aza residents. Oren and

Possick (2010) developed a measure to assess appropriate dimensions of ideology relevant for Israelis who live next to the Israeli borders. The measure assesses five dimensions of ideology: ideological-nationalist, socialist and/or religious; strategic (protecting Israel by living in Sderot); political; personal; and materialistic. Researchers (Garbarino et al., 1991; Kanagaratnam et al., 2005; Kaplan et al., 2005; Khamis, 2012; Laor et al., 2004; Laor et al., 2006; Lauer & Solomon, 2008; Muldoon & Wilson, 2001; Oren & Possick, 2010; Punamäki, 1996; Punamäki et al., 2001) have concluded that ideology might be a protective factor against PTSD in people who have been exposed to war-related stressors. Researchers (Dekel & Nuttman-Shwartz, 2009; Gelkopf et al., 2012; Stein et al., 2013) have suggested that ideology might be a protective factor against PTSD in residents of Israeli rural communities who have been exposed to ongoing incidents of terror. However, a direct examination of the correlation between ideology and PTSD symptomatology has not been conducted among Sderot residents.

Religiosity

Religion is an important cultural factor that gives meaning to human behavior (Tagay, Brähler, & Senf, 2006). Researchers (2006) have argued that religious commitment may help prevent mental illness, improve coping with mental illness, and facilitate recovery from mental illness. Three major dimensions capture the essence of the concept of religiosity: organizational religious activity, non-organizational religious activity, and intrinsic religiosity (Bentleyet al., 2014; Koenig & Büssing, 2010). Organizational religious activity includes public religious activities such as prayer groups. Non-organizational religious activity includes private religious activities such as

listening to a religious radio. Intrinsic religiosity includes personal religious commitment and motivation (Bentley et al., 2014; Koenig & Büssing, 2010).

The Duke University Religion Index (DUREL). Because of the need for a brief measure of religiosity and to allow researchers to investigate relationships between religion and health outcomes, researchers developed the Duke University Religion Index **(**DUREL; Koenig & Büssing, 2010). The DUREL, which was used in this study, is a five-item measure of religiosity that assesses the main three dimensions of religiosity. The DUREL is used around the world and is a reliable measure of the three major dimensions of religiosity (Bentley et al., 2014; Koenig & Büssing, 2010).

Religiosity and PTSD in previous research. In various studies, researchers have demonstrated the impact of religiosity on PTSD symptomatology and found that organizational religious activity and intrinsic religiosity, in particular, were associated with lower levels of PTSD symptoms (Aflakseir & Coleman, 2009; Bentley et al., 2014; Butler et al., 2007; Chang et al., 2003; Dimitry, 2012; Drescher & Foy, 1995; Fischer et al., 2006; Freedom, 2010; Gerber et al., 2011; Harrison et al., 2001; Hasanović & Pajević, 2010; Hobfull et al., 2008; Johnson & Thompson, 2008; Kelly, 2007; Korn & Zukerman, 2011; Laufer & Solomon, 2011; Lilly et al., 2015; Palmieri et al., 2008; Levav et al., 2008; Schaefer et al., 2008; Schiff, 2006; Somer et al., 2009; Stein et al., 2013; Tagay et al., 2006; Watlington & Murphy, 2006). A gap in the scholarly literature exists with regard to measuring religiosity by a measure or instrument that assesses major dimensions of religiosity, and investigates the potential correlation with PTSD symptoms for residents of Sderot.

Religiosity, PTSD, and political violence. Freedom (2010) investigated the relationship between religiosity and PTSD in veterans who have experienced war-related trauma and were enrolled in a PTSD residential treatment program for veterans. Higher levels of extrinsic social and religious motivation were associated with less PTSD and depressive symptoms (Freedom, 2010). Freedom measured religiosity by the religious background questionnaire and by the 14-item Age Universal Religious Orientation Scale. PTSD was measured by the PTSD Checklist-Military Version, and depression was assessed by the Beck Depression Inventory (Freedom, 2010). The main finding was that participants with higher levels of extrinsic social religious had lower severity of PTSD and depressive symptoms (Freedom, 2010). Extrinsic-social motivation was thought to counteract the social isolation that people with PTSD usually experience. Religious social activities might increase the social support these people experienced, and social support has been established as a protective factor for PTSD and depression (Freedom, 2010).

Fischer et al. (2006) examined the impact of increased salience of terrorism on mood of 146 intrinsically religious and nonreligious participants in Munich, Germany. Participants were told that intelligence services had assessed terrorist attacks in Germany either to be very likely, which was the high salience of terrorism condition, or relatively unlikely to happen, which was the low salience of terrorism condition (Fischer et al., 2006). Intrinsic and extrinsic religious orientation was measured by the Intrinsic and Extrinsic Religious Orientation Scale. Intrinsic religiosity was characterized by the striving for meaning and value; intrinsic religious orientation referred to religion as an end and of itself (Fischer et al., 2006). By contrast, extrinsically religious people use

religion to protect the self, serve personal goals of comfort and relief, and gain social goals. Participants' mood was measured by an established instrument for the assessment of positive and negative emotions (Fischer et al., 2006). Fischer et al. found that positive emotions of nonreligious participants were reduced by a high salience of terrorism as compared to a low salience of terrorism. However, no differences concerning positive emotions were found with regard to low and high salience of terrorism for intrinsically religious participants. In addition, nonreligious participants had more negative emotions in a high salience of terrorism compared to nonreligious participants in a low salience of terrorism. However, no differences concerning negative emotions were found with regard to low and high salience of terrorism for intrinsically religious participants (Fischer et al., 2006). The researchers concluded intrinsically religious people were less influenced by a high terror salience than nonreligious people. Intrinsic religiosity helped people to cope with threats of terrorism (Fischer et al., 2006).

Fischer et al. (2006) further examined the impact of increased salience of terrorism on mood of intrinsically religious and nonreligious people by measuring positive and negative emotions among 74 people from Munich, Germany, several hours after a terrorist suicide bombing in Istanbul. Fischer et al. (2006) discovered that nonreligious people experienced fewer positive emotions several hours after the terrorist attack in Istanbul as compared to intrinsically religious people. In addition, nonreligious people experienced fewer positive emotions several hours after the terrorist attack in Istanbul as compared to 2 months after the terrorist attack. No difference in positive emotions was observed between several hours and 2 months after the terrorist attack for

intrinsically religious people, leading to the conclusion that intrinsic religiosity helped to cope with the increased salience of terrorism (Fischer et al., 2006).

Hasanović and Pajević (2010) examined the influence of religious moral beliefs on PTSD, depression, and anxiety among 152 war veterans of the 1992-1995 Bosnian war. PTSD was assessed by the Harvard trauma questionnaire (Hasanović & Pajević, 2010). Anxiety and depression were assessed by the Hopkins Symptom Checklist-25. The Religious Moral Beliefs Scale assessed moral attitude and belief was constructed by Hasanović and Pajević, who found that 39.5% of the participants had PTSD, 56.6% had depression, and 69.7% had anxiety. The score of the Moral Beliefs Index was negatively associated with PTSD symptom severity, depressiveness, and anxiety, while the score of the Moral Beliefs Index was negatively associated with tobacco and alcohol abuse. Hasanović and Pajević argued traumatized people might become deprived of meaning and purpose following the trauma, and religiosity might help to maintain sense of meaning following traumatic events. The authors concluded that religious moral beliefs are a mental health protective factor of war veterans who had been exposed to prolonged war-related traumatic events, and a higher index of religious beliefs enabled better control of distress and provided better mental health stability in veterans who were exposed to cumulative traumatic events for more than 3 years.

Aflakseir and Coleman (2009) examined the influence of religious coping on the mental health of 78 Iranian disabled war veterans, aged 35-62, who fought in the 1980-1988 Iran-Iraq. Religious coping was measured by a scale based on the brief measure of religious coping (Aflakseir & Coleman, 2009). Positive religious coping included

seeking spiritual support, forgiveness, generous religious reappraisals; negative religious coping include demonic religious reappraisals, punitive religious reappraisals and spiritual discontent (Gerber et al., 2011). PTSD was measured by the impact of event revised scale (Aflakseir & Coleman, 2009). Psychological distress was assessed by the General Health Questionnaires (Aflakseir & Coleman, 2009). Positive religious coping was negatively associated with PTSD and psychological distress, and greater use of positive religious coping was related to lower levels of PTSD. In addition, Aflakseir and Coleman found a positive correlation between negative religious coping and PTSD symptoms. Aflakseir and Coleman concluded that positive religious coping had a beneficial effect on mental health and on PTSD symptoms for the Iran-Iraq war veterans.

Bentley et al. (2014) investigated the influence of religiosity on PTSD symptomatology in a sample of 59 Muslim East African refuges living in the United States. The authors hypothesized that high levels of organizational religious activity, non-organizational religious activity, and intrinsic religiosity would be associated with reduced PTSD symptoms. Organizational religious activity was associated with reduced PTSD symptoms for participants who reported low traumatic exposure. Traumatic exposure and posttraumatic symptoms were assessed by the Harvard Trauma Questionnaire-Revised (Bentley et al., 2014). Religiosity was assessed by the DUREL (2010). The authors concluded that religious practice might have some buffering effect on PTSD symptomatology by increasing the availability of psychological resources.

Kelly (2007) asserted that religion has a significant role in coping with traumatic events. In accordance with other researchers (Aflakseir & Coleman, 2009; Gerber et al.,

2011; Schaefer et al., 2008; Watlington & Murphy, 2006) Kelly argued that positive religious coping is linked to fewer symptoms of PTSD following traumatic events. Kelly suggested that spiritual reflection and involvement in a faith-based community are key resources that religion provides for victims of traumatic incidents of terror attacks. Engagement in spiritual reflection, according to Kelly, helps the victim to make sense of the trauma. Spiritual reflection may involve prayer, mediation, studying of religious writing, discussing theological issues with others, and keeping a spiritual journal (Kelly, 2007). Kelly's conclusion that making sense of the trauma is a main process related to better coping with traumatic events is in accordance with conclusions of other researchers (Gerber et al., 2011; Hasanović & Pajević, 2010; Korn & Zukerman, 2011; Laufer & Solomon, 2011; Schaefer et al., 2008; Schiff, 2006). In addition, Kelly argued that the community aspect of religion—that is, involvement in a faith-based community—is a key resource for victims of traumatic incidents of terror attack. In Kelly's study, faith community included parish, church, synagogue, mosque, or other meeting point for like-minded believers. As with other researchers (Bentley et al., 2014; Chang et al., 2003; Freedom, 2010), Kelly claimed that high levels of organized religion were associated with reduced PTSD symptoms.

In a study that will be discussed in more detail later in this chapter, Levav et al. (2008) found that religious individuals who lived in secular communities did not enjoy the protective effect of religiosity. A mismatch between the individual's degree of religious observance and the settlement of residence removed the component of involvement in a faith-based community for a religious individual who lived in such

communities, and as result the protective effect of religion was abolished for them (Levav et al., 2008). Butler, Morland, and Leskin (2007) also emphasized the protective effect of the community aspect of religion against PTSD in a reaction to acts of terrorism. Butler et al. suggested religious institutions provide beneficial community engagement which can be helpful for people who have been exposed to terrorist attacks.

Johnson and Thompson (2008) conducted a comprehensive review to assess the literature regarding predictors of PTSD in civilian adult survivors of war trauma. Forty-eight articles were included in their study (Johnson & Thompson, 2008). The authors found that a firm belief system may be protective against PTSD and was an important predictor for better therapy outcome in traumatized civilians following war trauma. They explained that religious belief may help individuals to make external attributions for the traumatic event, that the trauma is viewed as the will of God or fate (Johnson & Thompson, 2008). Johnson and Thompson argued that people who focused on their own actions as a cause for bad things had more PTSD symptoms.

Drescher and Foy (1995) suggested that regular religious practices such as church or synagogue attendance, prayer, and scripture reading were associated with positive mental health. Combat veterans, Drescher and Foy found, who experienced PTSD attended religious services less frequently than combat veterans who attended religious services frequently. In addition, Drescher and Foy suggested that religious commitment served as a protective factor against PTSD in women who were battered, and that religious practice may provide ongoing meaning, especially for individuals facing

traumatic events which often lead to dramatic change in survivors' assumptions about meaningfulness.

Religiosity and coping with trauma. Harrison et al. (2001) summarized previous findings concerning psychological outcomes of religious coping. Positive religious coping strategies were associated with lower rates of depressive symptoms and negative religious coping was associated with more depressive symptoms. Harrison et al. found that intrinsic religiosity was negatively related to depressive symptoms among cancer patients. Religious commitment was inversely correlated with depressive symptoms (Harrisson et al., 2001). Positive religious coping and intrinsic religiosity, and other measures of religiosity were associated with self-esteem, life satisfaction, and quality of life. Harrisson et al. concluded that religiosity is a resource for people struggling with critical life events.

Tagay et al. (2006) supported the notion that religious commitment promoted health. Religiosity was found to be beneficial for successful coping with stressful life events. Tagay et al. argued that empirical data supported the notion that religiosity improved meaning and purpose in life and increased the ability to cope successfully and effectively with traumatic events.

Lilly et al. (2015) argued religion helps victims recover from trauma. Religion helps traumatized people find a system of meaning in the face of a trauma that threatens to claim the world as meaningless. People who believe that the world is meaningful can function without constant fear of one's safety. This belief can help people in organizing their world, especially in face of a trauma (Lilly et al., 2015).

Gerber et al. (2011) examined the correlation between positive and negative religious coping to PTSD among 1,016 students of the University of North Texas. Positive and negative religious coping were measured by the Brief Measure of Religious Coping (Gerber et al., 2011). PTSD was assessed by the PTSD Checklist. Negative religious coping predicted PTSD symptoms. Gerber et al. (2011) suggested that traumatic events might shatter an individual's world view. If the individual's belief in religion was unable to provide sense of meaning, then the traumatic event had a further impact because the individual not only had to deal with the shattered world view but also with doubts about God, justice, and life purpose. The result of this process is greater levels of PTSD symptoms in response to traumatic events (Gerber et al., 2011). Thus, the processes of sense-making and creating sense of meaning were the core components of religion that led to beneficial trauma aftermath (Gerber et al., 2011).

Schaefer et al. (2008) conducted a qualitative review of empirical 23 selected studies that addressed the association of religious factors with posttraumatic stress. The review was made on 23 selected studies. Intrinsic religious orientation was the main useful construct in measuring religiosity in the association with the consequences of trauma. Intrinsic religiosity describes an orientation focused on God or faith rather than on the personal benefits; in contrast, extrinsic religiosity describes use of religion for personal benefits (Schaefer et al., 2008). Schaefer et al found that intrinsic religiosity was associated with decreased PTSD symptoms, and lower severity of intrusive and avoidant posttraumatic-stress symptoms. Attendance, regular religious practices, religious experiences, and forgiveness, which are part of the characteristics of positive religious

coping, were associated with less PTSD symptoms. Schaefer et al. concluded that religious person, who pursued faith for the sake of God rather than for personal benefit and was attending religious gathering, adheres to religious practice, and tend to forgive others (intrinsically religious and positive religious coping) may experience less posttraumatic stress in response to traumatic events than extrinsically religious people. In addition, the authors identified a strong association between intrinsic religious orientation and positive religious, and asserted that intrinsically religious people may be more likely to engage in positive religious coping and meaning-making coping.

Religiosity, PTSD, and chronic Israeli wars. Palmieri et al. (2008) found in the context of the Israel-Hezbollah war that Jewish ultra-religious population had the lowest PTSD rates. They suggested that ultra-religious people cope by trusting God. Ultra-religious people believe that war is not controlled by humans; they believe that war is inevitable and predestined, and this belief may serve as a protective factor (Palmieri et al., 2008). The study was conducted on 1,200 Jews and Arab participants after the end of the Israel-Hezbollah war in 2006. PTSD was assessed by the PTSD Symptom Scale (Foa, Riggs, Dancu, & Rothbaum, 1993). These researchers did not measure religiosity by a specific measure of religiosity, but obtained data about religiosity by analyzing demographic characteristics that they collected (Palmieri et al., 2008).

Stein et al. (2013) found by analyzing the association between demographic characteristics and PTSD that people who reported that they were religious had lower rates of PTSD. The study was conducted on 450 people from Sderot and Otef Aza. PTSD was assessed by the PTSD Checklist-Civilian version. These researchers did not measure

religiosity by a specific measure of religiosity, but obtained data about religiosity by analyzing demographic characteristics which they collected (Stein et al., 2013).

Hobfull et al. (2008) tried to identify risk and protective factors associated with PTSD among 1,117 Jews and 394 Arabs exposed to terror. The research was conducted following the ongoing acts of terrorism that Israel faced since the Al Aqsa Intifada (Hobfull et al., 2008). Hobfull et al. defined religious and ultra-religious people as those completely committed to religious practice, while traditional Jews following only some customs and laws. Jewish religious and ultra-religious participants had lower rates of PTSD compared to traditional Jews. The researchers determined that ongoing terrorism challenged the traditional Jews' faith, while faith was unchallengeable for very religious people (Hobfull et al., 2008). PTSD was assessed by the PTSD Symptom Sscale (Hobfull et al., 2008). Data about religiosity were obtained by analyzing demographic characteristics that they collected and not by a specific measure (Hobfull et al., 2008).

Korn and Zukerman (2011) assessed the psychological influence of traumatic events and the impact of religiosity among 770 students studying in a university in Samaria, which is located outside the green line (beyond the 1967 borders of Israel). The region has experienced a high prevalence of terror events, such as car bomb attacks (Korn & Zukerman, 2011). Korn and Zukerman found that higher levels of terror exposure were related to higher levels of avoidance, feelings of insecurity, and distress. Higher religiosity moderated only avoidance behavior and had no influence of feelings of insecurity or levels of distress. Level of exposure to terror, level of subjective sense of insecurity, level of avoidant behavior, and level of emotional distress were measured by

an appropriate 14-item questionnaire (Korn & Zukerman, 2011). Religiosity was measured by five religiosity-related questions. High levels of terror events exposure were linked to high levels of subjective insecurity, high levels of avoidance behavior, and more intense emotional response, while religiosity was associated only with lower levels of avoidance behavior (Korn & Zukerman, 2011). More religious students reported less avoidance such as avoiding traveling, avoiding leaving home, and so on, as compared to less religious students. Korn & Zukerman suggested that religiosity might facilitate the ability to attach a more positive meaning to traumatic experiences. However, the authors did not find an association between religiosity and internal feelings of threat (subjective feeling of insecurity) as they expected to find. Because religiosity reduced avoidance behavior, which was found to maintain anxiety symptoms after traumatic experience, Korn and Zukerman concluded that religiosity promoted a reduction in post-traumatic stress after terror attacks exposure.

Levav et al. (2008) investigated the relationship between religious observance and emotional distress in Israeli Gaza and West Bank settlements. The study was conducted on 267 residents of Gaza settlements and 416 residents of West Bank settlements. Religious observance was assessed by respondents' self-identification with regard to their religious observance (Levav et al., 2008). Participants were divided according to four categories of religious observance: secular (do not practice religious commandments), traditional (do not strictly adhere to religious commands), religious (observe commands but participate in the activities of the larger society) and ultra-religious (strictly observant of the religious commands and refraining from interacting with other sectors of the

population) (Levav et al., 2008). Emotional distress was measured by the 27-item Psychiatric Epidemiology Research Interview Demoralization Scale (PERI-D) (Levav et al., 2008). Religious and ultra-religious settlers had lower levels of emotional distress than either traditional settlers or secular settlers. Levav et al. concluded that religious observance might have a protective effect on the mental health of individuals facing political acts of terror. The protective effect of religiosity was found only when there was a match between the individual's degree of religious observance and the settlement of residence. Religious individuals who lived in secular communities did not enjoy the protective effect of religiosity (Levav et al., 2008). Religious individuals who lived in secular communities were more distressed than their counterparts living in religious communities. This finding emphasizes the importance of the community component in the protective impact of religiosity. The protection offered by religion required that the community environment matched the religiosity level of the individual. A mismatch between the individual's degree of religious observance and the settlement of residence might reduce feelings of belonging to the community (Levav et al., 2008).

Interestingly, Levav et al. (2008) also measured settlers' political ideology with eight 7-point scales. The study was conducted shortly prior to the removal of the settlers by the Israeli government, an action called "disengagement" (Levav et al., 2008). Participants' attitudes were measured toward the disengagement (pro-disengagement, anti-disengagement, alienation from the government, and security-oriented ideology). Although these findings were not reported in the discussion section of the article, in the results section Levav et al. reported interactions between religious observance and

political ideology. Secular and traditional persons who felt more alienated from the government had higher levels of emotional distress than religious and ultra-religious persons who had the same level of alienation from the government (Levav et al., 2008). Religious and ultra-religious who were more pro-disengagement had higher levels of emotional distress than either the secular or the traditional with the same high level of pro-disengagement. Religious and ultra-religious who were less attached to the land had higher levels of emotional distress than the secular with the same low level of attachment to the land (Levav et al., 2008). These findings demonstrated the involvement of political ideology and its interaction with religiosity in the psychological impact of terror.

Schiff (2006) examined the associations between level of exposure to terrorism, PTSD, and alcohol use among non-religious and religious Jewish adolescents living in Jerusalem during a prolonged period of terror attacks. In recent times, Jerusalem has been the focus of terrorist activity such as shooting attacks and suicide bombs since the early 1990s (Schiff, 2006). PTSD was measured by the Child Post-Traumatic Stress Reaction Index (Schiff, 2006). Symptoms of depression were measured by the Center for Epidemiologic Studies Depression Scale (Schiff, 2006). Alcohol consumption was measured by items from the United States monitoring the future yearly national youth surveys (Schiff, 2006). Religiosity was assessed by participants' self-definition as either ultra-orthodox, orthodox, conservative, or secular (Schiff, 2006). Religious adolescents had higher levels of exposure to terror than non-religious adolescents, yet religious adolescents had lower levels of PTSD and alcohol consumption than non-religious adolescents. Religious adolescents and non-religious adolescents had similar levels of

depressive symptoms even though religious adolescents had higher levels of exposure to terror (Schiff, 2006) as measured by the Political Life Event Scale (Schiff, 2006). Schiff discovered a strong association between levels of religiosity and PTSD. Religious participants reported lower levels of PTSD than non-religious participants. Exposure to terror predicted higher PTSD symptoms only for non-religious participants (Schiff, 2006). Schiff concluded that religiosity buffered the negative impact of exposure to prolonged terror attacks, and suggested that religiosity might give meaning to negative experiences and hence mitigated its negative impact. Schiff also claimed that religious adolescents in Israel reported a more positive perception of the world in terms of meaningfulness of the world. Thus, religiosity could shape trauma as a more integral part of life with a more positive meaning attached to it, and less as an external stressor which recruits coping efforts.

Laufer and Solomon (2011) examined the influence of religiosity on PTSD in Israeli adolescents from across the country. A total of 1,973 high school students, aged 13-15 years, participated in the study. Exposure to terror was measured by the Exposure to War and Terror Questionnaire; Religiosity was measured by the Revised Religious Orientation Scale. PTSD was measured by the Child Post-Traumatic Stress Reaction Index (Laufer & Solomon, 2011). Two thirds of the participants reported having been exposed to a terror event (Laufer & Solomon, 2011). Laufer and Solomon found that only intrinsic religious orientation was associated with less PTSD symptoms. Intrinsic religious orientation refers to religion as an end and of itself as opposed to religion as an instrument to serve social goals or religion as an instrument to serve personal goals of

comfort and relief (Laufer & Solomon, 2011). The authors concluded that intrinsic religious orientation may serve as a protective factor against the damaging effects of traumatic events. Laufer and Solomon (2011) suggested that traumatic events might shatter cognitions about the world and the self, and intrinsic religious orientation might provide a protective cognitive schema which promotes integration of negative traumatic experiences with prior worldview. Laufer and Solomon argued that this cognitive protection mechanism was applicable only when the belief was intrinsic and dominant in the cognitive hierarchy. Intrinsic religious orientation enabled individuals to put their faith in something bigger than themselves, and as a result enabled individuals to assign meaning to the traumatic events that occurred (Laufer & Solomon, 2011).

Somer et al. (2009) examined the prevalence of PTSD and the impact of variety of demographic characteristics among Jews and Arabs in Israel. The study was conducted following an extended string of terror attacks in Tel Aviv, Jerusalem, and Haifa (Somer et al., 2009). Somer et al. found that Arabs reported more frequent PTSD than Jews and that Arabs were a minority in Israel and had a greater social strain and as a result experienced greater mental health impact following terror attacks. In addition, Somer et al. found a negative correlation between religiosity and PTSD symptoms. Those who were more religious reported fewer PTSD symptoms (Somer et al., 2009). Religiosity was assessed by a self-report of participants as being religious, traditional or secular. The study was conducted on 100 Arabs and 100 Jews. PTSD was assessed by the Event Scale-Revised (Somer et al., 2009). Because the authors examined a variety of demographic

characteristics and found religiosity as negatively associated with PTSD symptoms, religiosity might mitigate the impact of exposure to terror attacks.

Dimitry (2012) conducted a systematic review of 71 articles to identify factors that mediate between exposure to armed conflict and mental disorders in children and adolescents from the Middle East. Dimitry (2012) found that religiosity was one of the main protective factors against PTSD for children and adolescents in the Middle East.

This literature review examined potential support for the notion that religiosity might be associated with lower levels of PTSD in Sderot residents. A gap in the scholarly literature exists with regard to a lack of research on measuring religiosity by a measure or instrument that assesses major dimensions of religiosity, and investigates the potential correlation with PTSD symptoms for residents of Sderot.

Methodological Considerations

Current research indicates that certain demographic variables (gender, age, and education) might correlate with PTSD symptom level and therefore may confound the results of the study.

Gender. As discussed earlier, Wayment (2004) found in her study that only women who engaged in community-based activities between 3 and 5 weeks after the September 11 terrorist attack had a faster decline in emotional distress 5 months later. Lauer & Solomon (2008) in a study that was brought above found that males had higher levels of ideological intolerance for others' views, and ideological intolerance had a positive correlation with PTSD. In addition, Laor et al. (2006) found that ideological willingness to sacrifice for the country had a different impact for males and females

exposed to continuous threat. Only for males, ideological willingness to sacrifice for the country was associated with severe PTSD symptoms (Laor et al., 2006). Oren and Possick (2010) in a study that was brought above, found that women reported higher levels of PTSD symptom severity than men. Stein et al. (2013) found gender was significant predictors for PTSD, among Sderot residents. The gender female was associated with a higher PTSD symptom level (Stein et al., 2013).

Age, gender and education. Gelkopf et al. (2012) found in a study that was conducted on Sderot and Otef Aza residents that lower levels of education, being older and female were associated with a higher PTSD symptom level. Palmieri et al. (2008) found in a study that was conducted on 1,200 adult Israeli residents that lower risk of PTSD was associated with higher education, and higher risk of PTSD was associated with being a woman.

Therefore, there is a need to examine whether gender, age and education correlate with the dependent variable in this study.

Justification of methodological choice. As described throughout this chapter, researchers who examined the impact of sense of community, ideology, or religiosity on PTSD symptomatology successfully utilized a quantitative, correlational approach. They measured the variables sense of community, ideology, religiosity, and PTSD symptom level by appropriate questionnaires and examined the correlation between the independent variables and the dependent variable. This method appears appropriate given the purpose of their research was to examine the impact of community, ideology and religiosity on PTSD symptomatology. As discussed in this chapter and will be discussed

in Chapter 3, the SCI, the measure of Oren and Possick (2010) for ideology, the DUREL and the PCL-C are appropriate measures of sense of community, ideology, religiosity and PTSD symptom level for this study.

Summary and Conclusions

The literature review supports the notion that a sense of community is negatively correlated with PTSD symptomatology. Considering the uniqueness of rural Otef Aza communities, which includes high solidarity and mutual support, it is reasonable to hypothesize that a high sense of community decreases vulnerability to develop PTSD in the context of the ongoing incidents of terror. Missing from the scholarly research, however, is a study that measures a sense of community and PTSD symptoms to determine if there is any correlation between these two variables for residents of urban Sderot.

Empirical findings (Garbarino et al., 1991; Kanagaratnam et al., 2005; Kaplan et al., 2005; Khamis, 2012; Muldoon & Wilson, 2001; Oren & Possick, 2010; Punamäki, 1996) suggest ideological commitment increased the ability of traumatized people to cope in stressful situations. In addition, considering the uniqueness of rural Otef Aza communities, which includes a shared world view of socialism, socialistic ethos, and strong ideological commitment for a way of life, it is appropriate to hypothesize that ideology might serve as a protective factor against PTSD. However, researchers have not directly examined the correlation between ideology and PTSD symptomatology for Sderot residents.

This literature review examined research that may support the notion that religious commitment might promote health, help coping, and facilitate recovery from mental illness. Higher levels of religiosity were found to be associated with lower severity of PTSD symptoms (Aflakseir & Coleman, 2009; Bentley et al., 2014; Butler et al., 2007; Chang et al., 2003; Dimitry, 2012; Drescher & Foy, 1995; Fischer et al., 2006; Freedom, 2010; Gerber et al., 2011; Harrisson et al., 200; Hasanović & Pajević, 2010; Hobfull et al., 2008; Johnson & Thompson, 2008; Kelly, 2007; Korn & Zukerman, 2011; Laufer & Solomon, 2011; Lilly et al., 2015; Palmieri et al., 2008; Levav et al., 2008; Schaefer et al., 2008; Schiff, 2006; Somer et al., 2009; Stein et al., 2013; Tagay et al., 2006; Watlington & Murphy, 2006). Similar findings were obtained in the context of the ongoing terror in Sderot (Stein et al., 2013). For Sderot residents, however, researchers have not measured religiosity by a specific instrument that assesses major dimensions of religiosity and investigated its correlation with PTSD symptoms; researchers instead obtained data about religiosity only by analyzing demographic characteristics (Stein et al., 2013). In addition, methodological considerations have been discussed.

The protective effect of a sense of community, as measured by the SCI (Chipuer & Pretty, 1999), ideology as measured by Oren and Possick (2010), and religiosity, as measured by the DUREL (Koenig & Büssing, 2010), were examined among Sderot residents.

Chapter 3 provides a detailed explanation of the research methods that I used in this study.

Chapter 3: Research Method

Introduction

The purpose of this study was to examine the impact of sense of community, ideology, and religiosity on PTSD symptoms among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. This chapter will include a description of this study's design, sample, instrumentation, and ethical considerations. The rationale for the design and sample population and size will be presented, as will a description of the instrumentation. The data collection process and analysis will also be discussed.

Research Design and Rationale

The independent variables were sense of community, ideology, and religiosity. The dependent variable was PTSD symptom level. A correlational approach was used with the purpose of investigating the impact of sense of community, ideology, and religiosity on PTSD symptoms among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

The four research questions follow: Does sense of community impact PTSD symptomatology in chronic terror attack situations? Does Ideology impact PTSD symptomatology in chronic terror attack situations? Does religiosity impact PTSD symptomatology in chronic terror attack situations? Which of the four independent variables (sense of community, ideology and religiosity) has the greatest impact on PTSD symptomatology?

A correlational study is appropriate for investigating the relationship between the independent variables and the dependent variable while participants were not assigned randomly to a particular group where the independent variables (sense of community, ideology, and religiosity) were manipulated (Creswell, 2013). Figure 1 presents the overall model of this study.

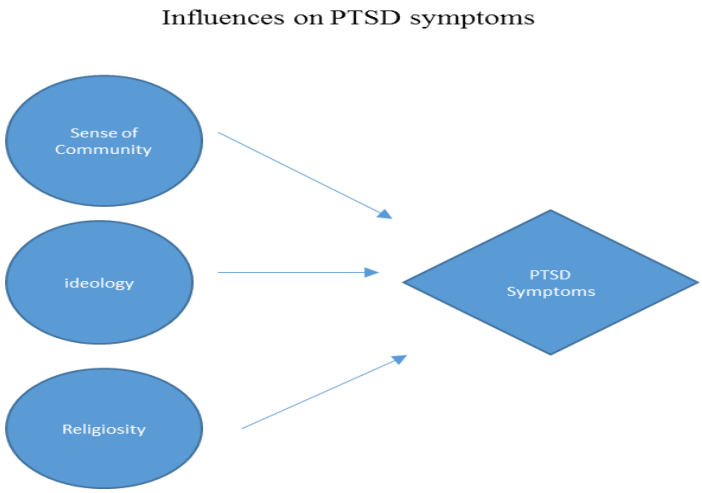

Figure 1. The overall model of this study hypothesized that sense of community, ideology and religiosity would predict PTSD symptoms among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

A correlational approach was also consistent with the need to advance knowledge of the impact of sense of community, ideology, and religiosity on PTSD symptoms among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. There is a lack of research on measuring sense of community, ideology, and religiosity by appropriate measures or instruments that assess these variables, to investigate the potential correlation with PTSD symptoms for residents of Sderot (Gelkopf et al., 2012; Stein et al., 2013). Researchers have neither tested the direct

effects of sense of community and ideology nor examined how these factors correlate with PTSD symptoms for residents of Sderot. In addition, a gap in the scholarly literature exists with regard to a lack of research on measuring religiosity by a measure or instrument that assesses major dimensions of religiosity to and investigate the potential correlation with PTSD symptoms for residents of Sderot. This was a correlational study; therefore, by definition a causal inference between the independent variables and the dependent variable cannot be made (Campbell & Stanley, 1963).

Methodology

Population

The target population included residents of Sderot, Israel, who have been exposed to terror attacks for more than 10 consecutive years. The estimated target population size was 21,600 people. Fifty point nine percent were males and 49.1% were females. Thirty-one point five percent were below the age of 20. Thirty-six point three percent were between the age of 20 and 45. Twenty-two percent were between the age of 45 and 65. Ten point three percent were above the age of 65. Ninety-four percent were Jewish (The Interior Ministry of Israel, 2012). About 30 % of Sderot residents, ages ranged from 18-83, met the criteria for PTSD assessed by the PCL-C (Gelkopf et al., 2012; Stein et al., 2013).

Sampling and Sampling Procedures

The participants were a convenience sample of Sderot residents. Participants were recruited at Sderot's shopping center. There is only one shopping center in Sderot, and anyone who needs to shop must go to this center. Although by definition this was a

convenience sample and not a representative sample, recruitment was conducted at different times of day and several times per week, allowing the sample chosen to better reflect the target population from which they will be drawn (Boxill et al., 1997). In the procedure for sampling, I was located at Sderot's shopping center each day, from 8 am to 6 pm, until the desired sample size was reached, and asked residents of Sderot if they were willing to participate in the study. The shopping center is a public place. and no permission was needed. Passersby's who wanted to participate continued the process as will be described in the next section. The inclusion criteria were residents of Sderot who have been living in Sderot for the past 10 years and were above the age of 18. People who did not meet these criteria were excluded. Due to time and financial constraints, I was not able to reach all of Sderot residents. Instead, I recruited a convenience sample of Sderot residents. No incentives were offered to participants.

The sample size was determined by setting the alpha level at the standard .05 for psychological research with an accepted value for power of .80 (Cohen, 2013). The estimated effect size from previous studies whose researchers investigated the association between the independent variables of religiosity, sense of community and ideology and the dependent variable of PTSD symptoms was between R^2 =0.14 and R^2 =0.28 (Bentley et al., 2014; Cowman et al., 2004; Gapen et al., 2011; Khamis, 2012; Laufer & Solomon 2008; Oren & Possick, 2010). A small effect size can be chosen as a safety measure when there is an uncertainty regarding the exact effect size (Cohen, 2013). R^2 =.12 is considered as a small effect size (Cohen, 2013). A power analysis revealed, using the statistical program G*Power version 3.1.9.2 (Faul, Lang, & Buchner, 2007), that for

multiple linear regression with three predictors, (considering the three variables that might confound the results of the study) using alpha level at .05, to detect an effect size of R^2 =.12 (f^2 =.13) with a power of at least .80, the study would require a sample of at least 63 participants

Procedures

Participants were recruited voluntarily at Sderot's shopping center at different times of day (8 am to 6 pm) and several times per week, Sunday to Thursday; on Friday and Saturday, participants were not recruited because the shopping center is closed early on Friday and closed all day on Saturday for Sabbath, which is a rest day. I was located in the middle of the shopping center for several consecutive weeks, from 8 am to 6 pm, each day, and asked residents of Sderot if they were willing to participate in the study. Potential participants were provided with written information introducing the study, as well as an informed consent form that included brief background information on the study, the procedures for participation, a discussion of confidentiality, the voluntary nature of the study, and ethical concerns (Appendix A). Participants were allowed to complete the forms in a designated place next to the shopping center (There are seats and benches next to a store called Supersal, located in the middle of the shopping center). This is an outdoor shopping center. However, weather was not an issue. The weather in Israel allows outdoor activities. Participants who preferred to complete the forms at some other time were allowed to complete the forms at a different place and to bring back the completed forms to Sderot's shopping center. It was noted whether participants completed the forms at a different place than the shopping center or at the shopping

center. Participants were given, in advance, a card with contact information of Sderot Mental Health Station and were guided to contact the station in case they became distressed during the study (Appendix B). Participants who completed the forms and gave them back to me were informed again to contact Sderot Mental Health Station if they felt any kind of distress. In addition, I gave my e-mail for future questions or concerns.

Participants were given the following five forms: informed consent form, a demographic questionnaire (Appendix C), PTSD PCL-C (Appendix D), SCI (Appendix E), DUREL (Appendix F), and the measure of Oren and Possick for ideology (Appendix G). Approximately 10 minutes was required to complete the survey.

Instrumentation and Operationalization of Constructs

Demographics. A demographic questionnaire was used to assess basic information regarding participants' age, gender, education, and an additional question about where participants completed the survey (Appendix C).

PTSD symptom level. Participants' PTSD symptoms were measured by the PTSD PCL-C (Weathers et al., 1993). The PCL-C, a well-validated 17-item measure assessing each symptom of PTSD, has been widely used to assess PTSD symptoms, in adults above the age of 18, across the world, including in Israel (Dickstein et al., 2012; Ruggiero et al., 2003). In a study conducted on 392 college-student participants, Ruggiero et al. (2003) found high correlations *(r* > .75) between PCL-C total scores and scores obtained on two well-established measures for PTSD named the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) and the Mississippi Scale for PTSD Civilian Version (MS-C; Vreven, Gudanowski, King, & King, 1995). This high

correlation between PCL-C, IES and MS-C provides evidence for reasonable construct (convergent) validity. Test-retest correlation coefficients for total scores on the PCL-C were .92, which provides evidence for strong reliability of the PCL-C (Ruggiero et al., 2003). In previous studies (Dickstein et al., 2012; Thabet, Tawahina, El Sarraj, & Vostanis, 2008), the PCL-C was used to measure PTSD level among Israeli citizens living near the Gaza border and among Gaza strip residents.

A total symptom severity score can be obtained by summing the scores from each of the 17 items that have response options ranging from 1 to 5 (Ruggiero et al., 2003), and a total symptom severity score was used in this study. Scores can range from 17 and 85. This is an interval level variable. A higher score indicates a higher symptom severity. I calculated Cronbach's alpha for PCL-C to confirm prior studies of reliability for PCL-C and to measure internal consistency. To receive a diagnosis of (provisional) PTSD according to the PCL–C, and based on diagnostic and statistical manual of mental disorders (DSM) criteria, I followed the guidelines for diagnosis of the authors (Weathers et al., 1994). Researchers (Gelkopf et al., 2012; Stein et al., 2013) who assessed the prevalence of PTSD symptoms among Sderot residents also used the PCL–C with these same guidelines. Response categories 3–5 (*Moderately* or above) were treated as symptomatic, and responses 1–2 (below *Moderately*) as nonsymptomatic. The following *DSM* criteria for a diagnosis were used: symptomatic response to at least 1 "B" item (Questions 1–5), symptomatic response to at least 3 "C" items (Questions 6–12), and symptomatic response to at least 2 "D" items (Questions 13–17).

Sense of community. Sense of community is defined by McMillan and Chavis (1986) as a feeling that members of a certain group have of belonging and of being important to each other, and a shared belief that the needs of members will be met by the collective. Sense of community was measured by the SCI (Perkins, Florin, Rich, Wandersman, & Chavis, 1990). The SCI was developed to assess the four dimensions of sense of community named membership, influence, fulfillment of needs, and shared emotional connection, which were presented by McMillan and Chavis (1986). The SCI consists of 12 true/false items measuring psychological sense of community. A total SCI score can be obtained by summing the scores from each of the 12 items (Chipuer & Pretty, 1999), and a total SCI score was used in this study. Scores can range from 0 and 12. This is an interval level variable. A higher score indicates a higher level of sense of community.

The SCI is the most widely used measure of sense of community (Obst & White, 2004). The SCI was used in avariety of different populations across the world; it was used in the United States, Russia, and China (Huang & Swong, 2014; Moscardino, Scrimin, Capello, & Altoè, 2010; Obst & White, 2004). In addition, the SCI was used on an Israeli population by McMillan and Chavis (1986) who compared levels of sense of community between members of a kibbutz in the Galilee called Kfar Blum, and the residents of two, urban Maryland communities. Normative data of the SCI were obtained by administrating the SCI to adult residents of 47 street blocks in Brooklyn and Queens, New York (A total of 1,081 residents); the SCI had an internal reliability score alpha of

.80 (Long & Perkins, 2003). I calculated Cronbach's alpha for SCI to confirm prior studies of reliability for SCI and to measure internal consistency.

Construct validity of the SCI was established in several different studies (McCarthy, Pretty, & Catano, 1990; Perkins et al., 1990; Pretty, 1990). Perkins et al. (1990) found that higher SCI scores were associated with long-time participants who lived in their neighborhood and who had higher ratings of block satisfaction in New York residents. Pretty (1990) discovered an association between the SCI and support characteristics of university students' social environment. McCarthy et al. (1990) found an association between high SCI scores and high scores on well-being variables.

Religiosity. Three major dimensions capture the essence of the concept of religiosity: organizational religious activity, nonorganizational religious activity, and intrinsic religiosity (Bentley et al., 2014; Koenig & Büssing, 2010). Religiosity was measured by the DUREL (Koenig & Büssing, 2010). The DUREL was designed to measure religiosity in Western religions (Christianity, Judaism, and Islam; Koenig & Büssing, 2010). The DUREL is a 5-item measure of religiosity that assesses the main three dimensions of religiosity: organizational religious activity, nonorganizational religious activity, and intrinsic religiosity. The first two questions have response options ranging from 1 to 6, and the next three questions have response options ranging from 1 to 5. A total religiosity score can be obtained by summing the scores from each of the five items and a total religiosity score was used in this study. This is an interval level variable. However, because the DUREL measures three different dimensions of religiosity, three scores can be obtained by summing the scores of each subscale (Koenig & Büssing,

2010). A higher score indicates a higher level of religiosity. I calculated Cronbach's alpha for DUREL to confirm prior studies of reliability for DUREL and to measure internal consistency

The DUREL is used around the world, including in the Middle East in which Israel is located, and is a reliable measure of the three dimensions of religiosity (Bentley et al., 2014; Koenig & Büssing, 2010). Normative data of the DUREAL were obtained by administrating the DUREAL to almost 7,000 persons aged 18 to 90 participating in the National Institute on Aging's Established Population for Epidemiologic Studies in the Elderly, the National Institute of Mental Health's Epidemiologic Catchment Area survey, and the National Institute of Mental Health-Supported Duke Hospital Study (Koenig & Büssing, 2010). The overall scale has high test-retest reliability (intraclass correlation = 0.91), high internal consistency (Cronbach's alpha's = 0.78–0.91), and high convergent validity with other measures of religiosity *(r* = 0.71–0.86; Koenig & Büssing, 2010). The DUREL has been used in more than 100 studies and had been translated into almost a dozen different languages (Spanish, Portuguese, Chinese, Romanian, Japanese, Thai, Persian/Arabic, German, Norwegian, Dutch, and Danish; Koenig & Büssing, 2010).

Ideology. Ideology is a diffusive concept in social science literature, and there is no definite definition of the concept (Jost, Federico, & Napier, 2009). In broad terms, ideology refers to political, moral, and religious belief systems (Oren & Possick, 2010). In light of no agreed-upon measure for ideology, researchers assess ideology by using scales designed for the sociopolitical context of their population (Shechner et al., 2007). Oren and Possick (2010) developed and used a measure of ideology relevant to Israeli

residents living next to Gaza. Five statements, each describing a different goal for living next to Gaza, are rated on a 4-point scale. A higher score indicates a higher level of ideology. This is an interval level variable. These goals are *ideological* (nationalist, socialist, and/or religious); *strategic* (protecting Israel by establishing an Israeli presence in the vicinity of the border with Gaza); *political* (preventing the return of areas in the vicinity of Gaza to the Palestinians); *personal* (the challenge of settling in a remote area); and *materialistic* (searching for a higher standard of living).

A total ideology score can be obtained by summing the scores from the first three items because the first three goals (ideological, strategic, and political) are related to belief systems and worldviews (Oren & Possick, 2010). Therefore, only the first three items were presented to the participants and were used, as Oren and Possick suggested. This measure using the first three items had an internal reliability score alpha of .77 in a study that was conducted on 326 Israeli adult participants who lived in the vicinity of Gaza (Oren & Possick, 2010). I calculated Cronbach's alpha for this measure to confirm prior study of reliability for this measure and to measure internal consistency.

Translation to Hebrew. The measures, PCL-C, SCI and DUREL have been translated from English into Hebrew and then back-translated to English to ensure a proper translation (The measure of Oren and Possick for ideology was written in Hebrew). The original measures and the back-translated measures are the same, which is an indication for a proper translation. The process of translation into Hebrew and back-translation to English has been conducted by bilingual experts who specialize in academic translation with expertise in a psychological research. These bilingual experts

work in a company named Mila translations who provides translation services to leading Israeli universities such as the Technion, Ben-Gurion University, and Netanya Academic College. The translation process was done for this study, in November 2015.

Data Analysis

I used software called the Statistical Package for Social Sciences (SPSS). I entered the data into SPSS 22.0. Two stages of analyses were conducted on the data, Preliminary Analyses which included data cleaning, descriptive statistics and assumption testing and Main Analyses which included hypotheses testing using multiple linear regression.

Preliminary Analyses

Table 1

Description and Operationalization for Each Variable

Variable	Type	Survey Items	Scale
PTSD Symptoms	DV	17	Continuous
Sense of Community	IV	12	Continuous
Religiosity	IV	5	Continuous
Ideology	IV	3	Continuous
Age	Descriptive	1	Continuous

Frequency and percentages of all categorical variables were conducted. The categorical variables come from the demographic questionnaire and are: gender and education. Means and standard deviations of all continuous variables were conducted which are listed in Table 1.

A Cronbach's alpha test of internal consistency was run on: the PTSD (PCL-C) symptom scores; the SCI sense of community scores; the DUREL religiosity, DUREL scores; and the measure of Oren and Possick for ideology (Gliem & Gliem, 2003).

There researcher attempted to rule out that gender, age and education correlate with the dependent variable and therefore may confound the results of the study. As discussed in Chapter 2, sense of community might benefit females more than males (Wayment, 2004). In addition, Lauer & Solomon (2008) claimed that males expressed more ideological intolerance and had more severe PTSD symptoms than females. On the other hand, in a different study Oren and Possick (2010) found that women reported higher levels of PTSD symptom severity than men. In an additional study that was introduced in Chapter 2, Gelkopf et al. (2012) claimed that predictors of PTSD included lower education levels, being older and female. Palmieri et al. (2008) claimed in a study that was brought in Chapter 2, that higher risk of PTSD was associated with being a woman, and lower risk of PTSD was associated with higher education. Therefore, Spearman correlations were conducted between gender, education and the dependent variable and a Pearson correlation was conducted between age and the dependent variable. If any significant correlations were found, I would statistically control those variables in the main analysis (Frank, 2000).

Assumptions Underlying Multiple Regression

Multicollinearity. The first assumption is that there is no multicollinearity (Pallant, 2013). Multicollinearity is when one predictor is highly predicted by other predictors, or in other words when the independent variables are highly correlated

(Diebold, 2013; Pallant, 2013). If multicollinearity exists the results of the test are not valid. Therefore, there is a need to ensure that the multicollinearity assumption is not violated and there is no collinearity in the data. In the first step, I checked the correlations between the predictors. Correlation of .70 or higher can be a problem (Diebold, 2013). Additionally, I checked the collinearity statistics named the tolerance and variance inflation factor. I checked whether the tolerance statistics were above .5 and variance inflation factor values were below 2, as recommended (Diebold, 2013). If the assumption of multicollinearity had been violated, I would have removed the predictor variable with the highest variance inflation factor from the model. However, the findings in this study indicated that the assumption of no multicollinearity was met.

Normally distributed errors. This assumption states that the residuals (the error for each case of data) are normally disturbed in the population. It is assumed that the residuals are random and normally distributed with a mean of 0 (Field, 2013). This assumption indicates that the differences between the model and the observed data are close to zero. I used the Kolmogorov-Smirnov (K-S) test to examine whether the errors were distributed normally. If the K-S test is significant then the data is significantly different from normal distribution, otherwise the data is normally distributed (Field, 2013). If the data was not normally distributed, a transformation of the data could be conducted (Pallant, 2013). Transformation of the data, involves mathematically modifying the scores until the distribution looks more normal (Pallant, 2013). There are several types of transformations. Applying a certain type of transformation depends on the shape of the distribution (Pallant, 2013). The shape of the distribution assessed by the

residuals scatterplot (Pallant, 2013). If there are too many low scores in the distribution then logarithm transformation or square root transformation can be used to remedy the problem (Field, 2013; Pallant, 2013). If there are too many high scores then reflect and square root transformation or reflect and logarithm transformations can be used as a remedy (Pallant, 2013). Reflect means to reverse the scores; to subtract each score from the highest score obtained (Pallant, 2013). However, it should be noted that this assumption of multiple regression (normally distributed errors) is robust to violation; multiple linear regression is robust for validity against violations of the assumption of normal distribution of errors (Osborne, & Waters, 2010). Transformations can improve normality, but complicate the interpretation of the results; therefore, other approaches such as outlier removal should be utilized before trying to apply transformations (Osborne, & Waters, 2010, Pallant, 2013). Removal of outliers is straightforward in most statistical software (Osborne, & Waters, 2010). Deletion of outliers or alternatively giving a score for that variable that is high but not too different from the remaining scores, reduce the probability of Type I and Type II errors, and improve accuracy of estimates (Osborne, & Waters, 2010, Pallant, 2013). The findings in this study indicated that the assumption of normally distributed errors was met.

Homoscedasticity. This assumption states that the residuals at each level of the predictors should have the same variance. The variance of the dependent variable should be the same at all levels of the predictor variable. Violating this assumption invalidates the significance tests (Field, 2013). I created a scatterplot of the values of the residuals against the values of the dependent variable. I looked if there was a systematic

relationship between the predicted values and the errors. If homoscedasticity exists then there should be no systematic relationship between the predicted values and the errors (Field, 2013). A graph that funnels out might indicate that there is heteroscedasticity in the data. If heteroscedasticity exists there are ways to remedy it. If heteroscedasticity results from a variable being skewed and others are not skewed a transformation (log or square root transformation) of the variables may remedy the problem (Field, 2013). A different remedy that can be applied when heteroscedasticity exists which does not include transformation is to use weighted least squares regression (Natrella, 2010; Tabachnick, & Fidell, 2001). However, the findings in this study indicated that the assumption of homoscedasticity was met.

Linearity. This assumption states that the outcome variable can be described by a linear combination of the predictors (Field, 2013). The assumption of linearity was tested by creating a scatterplot of the values of the residuals against the values of the dependent variable. If linearity holds true, then there should be no systematic relationship between the predicted values and the errors. If there was any sort of curve in the graph, it would indicate that the assumption of linearity was broken (Field, 2013). If there was a nonlinear relationship, a transformation (log or square root transformation) of the data would remedy the problem (Field, 2013). Another possible remedy, in case that the assumption of linearity was violated, which does not include transformation, was to include the square of the predictor variable in the regression (Tabachnick, & Fidell, 2001). However, the findings in this study indicated that the assumption of linearity was met.

Independent errors. This assumption states that for any two observations, the error for each case of data should be uncorrelated (Field, 2013). This assumption was tested with the Durbin-Watson test (Field, 2013). If this assumption was violated there would be need to use multilevel linear models (Field, 2013). However, the findings in this study indicated that the assumption of independent errors was met.

Main Analyses - Multiple Regression

The research questions and hypotheses follow:

RQ_1: Does sense of community impact PTSD symptomatology in chronic terror attack situations?

Ho_1: Sense of community, as measured by the Sense of Community Index (SCI), does not affect PTSD symptomatology for residents of Sderot, as measured by the PTSD CheckList Civilian Version (PCL-C).

Ha_1: Sense of community, as measured by the SCI, does impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

RQ_2: Does ideology impact PTSD symptomatology in chronic terror attack situations?

Ho_2: Ideology as measured by the measure of Oren and Possick for ideology does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

Ha_2: Ideology as measured by the measure of Oren and Possick for ideology does impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

RQ_3: Does religiosity impact PTSD symptomatology in chronic terror attack situations?

Ho_3: Religiosity, as measured by the Duke University Religion Index (DUREL), does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

Ha_3: Religiosity as measured by the DUREL does impact PTSD symptomatology for residents of Sderot, as measured by the PCL-C.

RQ_4: Which of the four independent variables (sense of community, ideology and religiosity) has the greatest impact on PTSD symptomatology?

Ho_4: The three independent variables sense of community, ideology and religiosity, as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL will have an equal impact on PTSD symptomatology, as measured by the PCL-C.

Ha_4: The three independent variables sense of community, ideology and religiosity, as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL will not have an equal impact on PTSD symptomatology, as measured by the PCL-C.

In order to answer these 4 research questions, I conducted a standard multiple linear regression to determine whether sense of community, ideology and religiosity predict PTSD symptoms.

***Evaluating the model*.** Standard multiple linear regression assessed whether the linear combination of sense of community, ideology and religiosity significantly related to PTSD symptoms (Field, 2013; Pallant, 2013). I reported and used R-squared to determine how much variance in PTSD symptoms could be explained by sense of community, ideology and religiosity combined (Pallant, 2013). As part of the multiple regression, Analyses of Variance (ANOVA) F test was used to examine the statistical significance of the regression (Field, 2013; Pallant, 2013). In all of the statistical tests in this study, I set the alpha level at .05, with a two-tailed test to assess the significance (Cohen, 2013). F, R^2 and p values were reported; R^2 represents the effect size, $p<.05$ indicated that the regression was statistically significant.

***Evaluating each of the dependent variables*.** The coefficients output were used to assess the effects of each predictor on the dependent variable while holding the other predictors constant (Pallant, 2013). I reported and used the semi-partial squared to determine the proportion of variance in the dependent variable uniquely accounted for by each predictor (Field, 2013). In addition, I used and reported the standardized coefficient, *beta,* to evaluate and compare the contribution of each independent variable (Pallant, 2013). Standardized coefficient *beta*, indexes the standard unit change in the dependent variable for a 1 standard deviation change in each predictor (Pallant, 2013). For an example, a *beta*=0.5 (for a certain predictor) indexes that for a 1 standard deviation increase in the predictor score, the dependent variable is predicted to increase by 0.5 standard deviations (Field, 2013). A bigger *beta* indicates, a stronger unique contribution

to explaining the dependent variable (Pallant, 2013). A *t* test was used to determine the statistical significance of each predictor (Pallant, 2013).

Threats to Validity

Threats to External Validity. The participants included a convenience sample rather than a representative sample. The convenience sample generates a threat to external validity; that is, the generalizability of the results is limited (Campbell & Stanley, 1963). To help address this threat in advance, participants' recruitment was conducted at different times of day and several times per week. This recruitment process allowed the chosen sample to be equated to a more representative sample of the larger population (Boxill et al., 1997). In addition, because participation was voluntary there is the possibility that those who agreed to volunteer for the study were in some meaningful way, different from those who refused (Wiersma, 2013). This may cause the sample to be unrepresentative of the whole population and therefore restrict the external validity of the results.

The inclusion criteria required participants be residents of Sderot only, who have been living in Sderot for the past 10 years. Therefore, the results cannot be generalized beyond residents of Sderot during the past 10 years. However, significant results in this study may suggest that similar results might be found for different populations and might encourage other researchers to replicate this study for different populations.

Threats to Internal Validity. *History* could have been a threat to this study's internal validity, in case unusual terror attacks had been occurred throughout Israel prior

to the study (Creswell, 2013). To address this threat in advance, I did not conduct the study in times of unusual tension.

Confounding. Predictors and the dependent variable may be correlated with external variables not measure in the present study. There is a threat as variables that have not been included in the regression may influence the dependent variable (Field, 2013). If external variables correlate with the predictors and the dependent variable then the conclusions of the study become invalid (Field, 2013). It is impossible to rule out the influence of all possible external variables, however, I attempted to rule out that gender, age and education confound study results by conducting a zero-order correlation between these variables and the dependent variable. If any significant correlations were found, I would statistically control for those variables in the main analyses.

Threats to construct validity. Results are only valid if the test measures what it claims to be measuring (Creswell, 2013). Correct operationalization and measures with high construct validity must be used so that correct inferences may be drawn from the results. To address this threat in advance, I used measures with a proven high construct validity, well-validated, that have been widely used, as was extensively described in the instrumentation section. In addition, I calculated Cronbach's alpha for each measure to evaluate internal consistency for each measure, and to confirm prior studies of reliability for each measure (Gliem & Gliem, 2003; Koenig & Büssing, 2010; Long & Perkins, 2003; Oren & Possick, 2010; Ruggiero et al., 2003)

Threats to Statistical Conclusion Validity. I checked that all of the assumptions underlying multiple regression were not violated and in case of a violation, I would have

used the remedies described above (Field, 2013; Pallant, 2013). However, the findings in this study indicated that all of the assumptions underlying multiple regression were met.

Ethical Procedures

Walden's institutional review board (IRB) approval was obtained prior to research. I have completed the National Institutes of Health (NIH) training in human participants during my studies at Walden. An informed consent form was given to all potential participants as was elaborated above. All records in this study were anonymous, identifying information was not collected. Participants were informed that they were free to withdraw from the study at any time without any consequences. Although there were no anticipated physical risks for participating, there was a potential for emotional upset, as residents of Sderot have been exposed to terror attacks for more than 10 consecutive years. Therefore, participants were given, in advance, a card with contact information for Sderot Mental Health Station and were guided to contact the station in case they became distressed during the study. Sderot Mental Health Station offers free mental health services to people that are in need. There were no benefits for participating in this study beyond an individual potentially gaining from the experience of participating in a research study. Finally, participants were free to withdraw from the study without penalty and at any time if they did not wish to continue.

Summary

This correlational study examined the extent to which variations in the independent variables (sense of community, ideology, and religiosity) corresponded with variations in the dependent variable (PTSD level) among residents of Sderot who have

been exposed to terror attacks for more than 10 consecutive years. Participant recruitment was conducted at the shopping center of Sderot at different times of day and several times per week, allowing the sample to largely represent Sderot residents. PTSD level was measured by the PCL-C. Sense of community was measured by the SCI. Religiosity was measured by the DUREL. Ideology was assessed by the same way as did Oren and Possick (2010).

Chapter 4 will provide a detailed description of the results of this study.

Chapter 4: Results

The purpose of this study was to quantitatively examine whether a sense of community, ideology, and religiosity was associated with PTSD symptoms among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. The research questions and hypotheses that guided the study follow:

RQ_1: Does sense of community impact PTSD symptomatology in chronic terror attack situations?

Ho_1: Sense of community, as measured by the SCI, does not affect PTSD symptomatology for residents of Sderot, as measured by the PTSD PCL–C.

Ha_1: Sense of community, as measured by the SCI, does impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

RQ_2: Does ideology impact PTSD symptomatology in chronic terror attack situations?

Ho_2: Ideology as measured by the measure of Oren and Possick for ideology does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

Ha_2: Ideology as measured by the measure of Oren and Possick for ideology does impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

RQ_3: Does religiosity impact PTSD symptomatology in chronic terror attack situations?

Ho_3: Religiosity, as measured by the DUREL, does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

*H*a$_3$: Religiosity, as measured by the DUREL, does impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

RQ$_4$: Which of the three independent variables (sense of community, ideology and religiosity) has the greatest impact on PTSD symptomatology?

*H*o$_4$: The three independent variables sense of community, ideology, and religiosity, as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL will have an equal impact on PTSD symptomatology, as measured by the PCL–C.

*H*a$_4$: The three independent variables sense of community, ideology and religiosity, as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL will not have an equal impact on PTSD symptomatology, as measured by the PCL–C.

In this chapter, I summarize the data collection process, the preliminary statistics including a description of participants sampled in this study and moves on to the results of the main analyses of the four hypotheses.

Data Collection

Over a 1-week period in the spring of 2016, 150 booklets containing all required forms were handed out to Sderot residents who agreed to participate in the study and who met the inclusion criteria. Because I did not count the number of people who declined participation, a response rate cannot be calculated. I believe that about 50% declined participation; it should be noted that I did not measure the number of people who declined participation, and this is only an estimate. Of the 150 participants, 118 (78.66%)

successfully completed and returned all required forms. Upon the return of the forms from each participant, I checked for missing data and alerted participants who did not complete their forms. Of the 150 participants, one did not bring back the forms, and 31 participants did not want to complete entire measures of variables. The rest of the participants successfully completed filling out their forms. In Chapter 3, I mentioned that participants would be allowed to complete the forms either at the shopping centre or at any other place they preferred. Practically all of the people who agreed to participate in the study completed the forms at the shopping centre. Those who agreed to participate in the study preferred to complete the forms at the shopping centre. The data collection proceeded as planned in Chapter 3. Of those who successfully completed and returned all required forms, 71 (60.2%) were males and 47 (39.8%) were females. According to the Interior Ministry of Israel (2012), 50.9 % of Sderot residents are males and 49.1% are females. Table 2 summarizes the remaining demographic characteristics of the study sample.

Table 2

Demographic Characteristics of Study Sample (N=118)

	n	%
Age bracket		
18–27	25	21.2
28–37	17	14.4
38–47	11	9.3
48–57	19	16.1
58–67	20	17
68–77	14	11.8
78–87	12	10.2
Education		
Some elementary school	7	5.9
Graduate elementary school	11	9.3
Some high school	43	36.4
High school graduate	40	33.9
Bachelor's degree	15	12.7
Master's degree	2	1.7

Participants' ages were proportional to the ages of Sderot adult residents. According to the Interior Ministry of Israel (2012), Sderot residents ranged from below the age of 20 years, 31.5%; ages 20–45, 36.3%; ages 45–65, 22%; ages 65 and older, 10.3%. Participant age ranges in this study were the following: ages 20–45 years, 36.7%; ages 45–65 years, 36.5% and ages years 65 and older, 24.6%.

Means and Standard Deviations for All Continuous Study Variables

Means and standard deviations for the independent and dependent variables are presented in Table 3.

Table 3

Means and Standard Deviations for Continuous Variables

Variable	Min	Max	*M*	*SD*
Sense of Community	0	12	7.75	3.026
Ideology	6	12	9.77	1.46
Religiosity	5	27	17.75	4.59
PTSD	17	75	36.74	13.11

As discussed in Chapter 3, to receive a diagnosis of (provisional) PTSD according to the PCL–C based on *DSM* criteria, the participant must have endorsed at least one re-experiencing symptom, three avoidance symptoms, and two hyperarousal symptoms. Consistent with previous researchers (Gelkopf et al., 2012; Stein et al., 2013) who examined prevalence of PTSD symptoms among Sderot residents, of the 118 study participants, 39 (33.05%) met the criteria for (provisional) PTSD.

Covariates in the Model

As discussed in Chapter 2, gender, age, and education might correlate with PTSD symptom level and, therefore, may confound the results of the study. Gelkopf et al. (2012) found that being older, female, and lower education were associated with a higher PTSD symptom level.

Prior to conducting the main analyses, gender, age, and education were assessed as potential covariates of the model. Spearman correlations were conducted between gender, education, and the dependent variable (PTSD symptomatology). Spearman rank order correlation is a nonparametric measure of statistical dependence between two variables and is appropriate for discrete variables and ordinal variables (Pallant, 2013). A

Pearson correlation was conducted between age and PTSD symptomatology. Pearson product moment coefficient is a measure of statistical dependence between two variables and is designed for continuous variables (Pallant, 2013).

Table 4

Pearson and Spearman Correlation Analyses to Assess for Covariates

Variable	PTSD Symptomatology
Gender	0.18*
Age	–0.136
Education	0.017

Note. *$p < 0.05$.

Consistent with the findings of Gelkopf et al. (2012) and Stein et al. (2013), the relationship between gender and PTSD symptomatology was significant, $r(118) = 0.18$, $p = 0.04$. Being female was associated with more PTSD symptoms. Consistent with the findings of Stein et al., but inconsistent with the findings of Gelkopf et al., the relationship between age and PTSD symptomatology was not significant, $r(118) = –0.136$, $p = 0.142$. Consistent with the findings of Stein et al., but inconsistent with the findings of Gelkopf et al., the relationship between education and PTSD symptomatology was not significant, $r(118) = 0.017$, $p = 0.85$. Gender was controlled in the main study analyses.

Study Results

Preliminary Analyses

Data cleaning. Descriptive statistics and frequency distribution of all study variables were conducted to make sure data were within possible range; all study variables were in possible range.

Internal consistency. Cronbach's alpha values were calculated to evaluate reliability and internal consistency of each scale. The SCI was found to have a Cronbach's alpha value of 0.77. The DUREL was found to have a Cronbach's alpha value of 0.78. The measure of Oren and Possick for ideology was found to have a Cronbach's alpha value of 0.70. The PCL–C was found to have a Cronbach's alpha value of 0.96. Perkins et al. (1990) reported an internal reliability score alpha of 0.80. Studies of the DUREL's psychometric properties have found Cronbach's alpha's = 0.78–0.91 (Koenig & Büssing, 2010). Oren and Possick (2010) reported that their ideology measure for ideology had an internal reliability score alpha of 0.77. Bollinger, Cuevas, Vielhauer, Morgan, and Keane (2008) found that the PCL–C had a Cronbach's alpha value of 0.94. Keen, Kutter, Niles, and Krinsley (2008) and Morrill et al. (2008) reported that the PCL-C had a Cronbach's alpha value of 0.96.

Statistical assumptions. Main analyses included hypotheses testing using multiple linear regression. Therefore, the assumptions of absence of multicollinearity, normally distributed errors, homoscedasticity, linearity, and independent errors were assessed prior to main analyses (Field, 2013; Pallant, 2013). In addition, prior to main analyses, I checked for outliers (Field, 2013; Pallant, 2013).

Multicollinearity. Multicollinearity is when one predictor is highly predicted by other predictors, or when the independent variables are highly correlated (Pallant, 2013). Absence of multicollinearity was assessed by tolerance statistics and variance inflation factor values (Field, 2013). As desired, all of the variance inflation factor (VIF) values were < 2, and all of the tolerance statistics were > 0.5, indicating absence of multicollinearity (Table 5).

Table 5

Tolerance and Variance Inflation Factor

Variable	Tolerance	VIF
Sense of Community	0.99	1.00
Ideology	0.92	1.08
Religiosity	0.90	1.10
Gender	0.88	1.13

Independent errors. This assumption states that for any two observations, the error for each case of data should be uncorrelated (Field, 2013). With a sample size of 118 participants and four independent variables, the Durbin–Watson statistic was found to be 2.17, which is close to 2 and between 1 and 3, indicating that this assumption is met and the residuals in the model are independent (Field, 2013).

Homoscedasticity and linearity. Homoscedasticity assumption states that the residuals at each level of the predictors should have the same variance (Field, 2013). Linearity assumption states that the outcome variable can be described by a linear combination of the predictors (Field, 2013). Figure 1 shows the plot of standardized residuals against standardized predicted values. The graph does not funnel out, and no systematic relationship between the predicted values and the errors exist, a sign that the

homoscedasticity assumption was met (Field, 2013; Pallant, 2013). In addition, neither systematic relationship between the predicted values and the errors, nor any sort of curve in the graph exist, a sign that the linearity assumption was met as well (Field, 2013; Pallant, 2013).

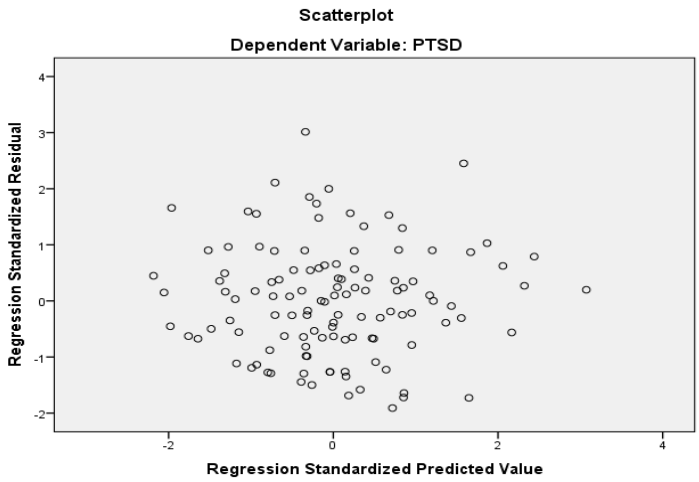

Figure 1. Residuals scatterplot for multiple linear regression's assumptions testing.

Normally distributed errors. Normality was assessed by calculating values of skewness and kurtosis, and by the Kolmogorov–Smirnov (K–S) test. The further the values of skewness and kurtosis are from zero, the more likely the data are not normally distributed (Field, 2013). The assumption of normality was met, with skewness = 0.41 and kurtosis = –0.31. In addition, the result of the K–S test was not significant, $p = 0.20$, indicating that this assumption was met (Field, 2013).

Spotting outliers. Standardized values (*Z* scores) for all continuous variables were calculated in order to spot outliers. Outliers can be spotted by a standardized absolute value of above 3.29 (Field, 2013). No outliers were found in the dataset.

Sample size. Pallant (2013) introduced two main guidelines regarding sample size required for multiple regression. The first recommendation is 15 participants per predictor. The second recommendation involves calculating sample size requirements by the number of study independent variables: $N > 50 + 8m$ (where m = number of independent variables). According to the first guideline, this study required 15 x 4 = 60 participants, as there were four predictors (sense of community, ideology, religiosity, and gender). According to the second guideline, this study required at least 50 + 8 x 4 = 82 participants. This assumption of required sample size was met as study sample size included 118 participants. It should be noted that in Chapter 3, the required sample size was determined using a power analysis. The power analysis revealed that this study would require a sample of at least 63 participants.

Main Analyses

One standard multiple linear regression (Pallant, 2013) was conducted to determine the strength and direction of the relationship between sense of community, ideology, and religiosity to PTSD symptomatology for residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. In addition to the major linear regression, post hoc analyses were conducted to examine the relationship between dimensions of sense of community and religiosity with PTSD symptomatology among residents of Sderot.

Research Question 1

RQ_1: Does sense of community impact PTSD symptomatology in chronic terror attack situations?

Ho$_1$: Sense of community, as measured by the SCI, does not affect PTSD symptomatology for residents of Sderot, as measured by the PTSD PCL–C.

Ha$_1$: Sense of community, as measured by the SCI, does impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

The relationship between sense of community and PTSD symptomatology among Sderot residents was not found to be statistically significant, t (113) = –0.49, p = 0.62, sr^2 = 0.017. Therefore, the null hypothesis could not be rejected in favor of the alternative hypothesis. Table 6 presents the multiple regression results for sense of community.

Table 6

Multiple Linear Regression Analysis With Sense of Community Predicting PTSD Symptomatology

Variable	*B*	*SE*	β	*t*	*p*
Sense of Community	–0.18	0.37	–0.04	–0.49	0.62

Research Question 2

RQ$_2$: Does ideology impact PTSD symptomatology in chronic terror attack situations?

Ho$_2$: Ideology as measured by the measure of Oren and Possick for ideology does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

Ha$_2$: Ideology as measured by the measure of Oren and Possick for ideology does impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

For Research Question 2, findings indicated that the relationship between ideology and PTSD symptomatology was found to be statistically significant,

$t(113) = -2.98$, $p = 0.003$, $sr^2 = 0.06$ uniquely accounting for 6 % of the variance in PTSD symptomatology. As ideology increases, PTSD symptomatology decreases.

The null hypothesis, ideology as measured by the measure of Oren and Possick for ideology does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C, was rejected in favor of the alternative hypothesis. Table 7 presents the multiple regression results for ideology.

Table 7

Multiple Linear Regression Analysis With Ideology Predicting PTSD Symptomatology

Variable	*B*	*SE*	β	*t*	*p*
Ideology	-2.41	0.80	-0.26	-2.98	0.003

Research Question 3

RQ_3: Does religiosity impact PTSD symptomatology in chronic terror attack situations?

Ho_3: Religiosity, as measured by the Duke University Religion Index (DUREL), does not impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

Ha_3: Religiosity as measured by the DUREL does impact PTSD symptomatology for residents of Sderot, as measured by the PCL–C.

The relationship between religiosity and PTSD symptomatology was not found to be statistically significant, $t(113) = -1.82$, $p = 0.07$, $sr^2 = 0.024$. Therefore, the null hypothesis could not be rejected in favor of the alternative hypothesis. Table 8 presents the multiple regression results for religiosity.

Table 8

Multiple Linear Regression Analysis With Religiosity Predicting PTSD Symptomatology

Variable	*B*	*SE*	β	*t*	*p*
Religiosity	–0.47	0.26	–0.16	–1.82	0.07

Research Question 4

RQ_4: Which of the three independent variables (sense of community, ideology and religiosity) has the greatest impact on PTSD symptomatology?

Ho_4: The three independent variables sense of community, ideology and religiosity, as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL will have an equal impact on PTSD symptomatology, as measured by the PCL–C.

Ha_4: The three independent variables sense of community, ideology and religiosity, as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL will not have an equal impact on PTSD symptomatology, as measured by the PCL–C.

To assess all research questions, one multiple linear regression was conducted to determine the strength and direction of the relationship between sense of community, ideology, and religiosity to PTSD symptomatology for residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. To assess Research Question 4, Part r^2 correlation coefficients were examined to determine how much of the total variance in PTSD symptomatology was uniquely explained by each of the predictors.

Sense of community and religiosity were not significant predictors and therefore, did not offer a significant contribution to the model. The Part r^2 correlation coefficient for ideology was 0.06, indicating it uniquely explained 6 % of the variance in PTSD symptomatology. Ideology was the largest contributor in this model. Therefore, the null hypothesis stating that the three independent variables, sense of community, ideology and religiosity, as measured by the SCI, the measure of Oren and Possick for ideology, and the DUREL would have an equal impact on PTSD symptomatology, as measured by the PCL–C, was rejected in favor of the alternative hypothesis. The summary Table for the analysis is presented in Table 9.

Table 9

Multiple Linear Regression Analysis With Sense of Community, Ideology, and Religiosity Predicting PTSD Symptomatology

Variable	*B*	*SE*	β	*t*	*p*	sr^2
Sense of Community	–0.18	0.37	–0.04	–0.49	0.62	0.017
Ideology	–2.41	0.80	–0.26	–2.98	0.003	0.06
Religiosity	–0.47	0.26	–0.16	–1.82	0.07	0.024
Gender	2.74	2.45	0.10	1.11	0.26	–

Overall Regression Results

As stated previously, to assess all research questions, one multiple linear regression was conducted to determine the strength and direction of the relationship between sense of community, ideology, and religiosity to PTSD symptomatology for residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

The result of the multiple linear regression was significant, F (4, 113) = 5.144, p = 0.001, R^2 = 0.15, f^2=0.17, indicating the model account for 15% of the variance in PTSD symptomatology among residents of Sderot. R^2 = 0.15, f^2=0.17 is considered a medium effect size (Cohen, 2013). Ideology (B = –2.41, p = 0.003) offered unique significant contribution to the model. As ideology increases by one unit, PTSD symptomatology decreases by 2.41 units. The summary Table for the analysis is presented in Table 9.

Post Hoc Analyses

In addition to the major linear regression, post hoc analyses were conducted to examine the relationship between dimensions of sense of community and religiosity with PTSD symptomatology among residents of Sderot. Post hoc analyses involved one additional standard multiple linear regression with dimensions of sense of community and religiosity predicting PTSD symptomatology.

Sense of community's dimensions. The SCI yields scores on four dimensions of sense of community: membership, influence, fulfillment of needs, and shared emotional connection. Either four scores for each dimension can be obtained by summing the scores of each subscale, or a total sense of community score can be obtained by summing the scores from all items.

Fulfillment of needs and PTSD symptomatology. The relationship between fulfilment of needs and PTSD symptomatology was found to be statistically significant, t(108) = –2.33, p = 0.02, sr^2 = 0.03 uniquely accounting for 3 % of the variance in PTSD symptomatology. As fulfillment of needs increases, PTSD symptomatology decreases among residents of Sderot who have been exposed to terror attacks for more than 10

consecutive years. The relationship between all other three dimensions of sense of community: membership, influence, and shared emotional connection, with PTSD symptomatology was not found to be statistically significant. The summary Table for the post hoc analysis is presented in Table 10.

Table 10

Multiple Linear Regression Analysis With Sense of Community's Subscales, Ideology, and Religiosity's Dimensions Predicting PTSD Symptomatology

Variable	*B*	*SE*	β	*t*	*p*	sr^2
Membership	0.93	1.36	0.08	0.68	0.49	0.003
Shared Emotional Connection	–1.00	1.39	–0.07	–0.72	0.47	0.003
Fulfillment of Needs	–3.30	1.41	–0.21	–2.33	0.02	0.03
Influence	1.19	1.30	0.10	0.91	0.36	0.005
ORA	–1.24	1.22	–0.12	–1.02	0.30	0.007
NORA	2.21	1.09	0.25	2.02	0.04	0.02
IR	–1.31	0.41	–0.29	–3.14	0.002	0.06
Ideology	–1.59	0.79	–0.17	–2.01	0.04	0.02
Gender	3.67	2.45	0.13	1.49	0.13	–

Religiosity's dimensions. The DUREL measures three different dimensions of religiosity; therefore, either of the three scores can be obtained by summing the scores of each subscale, or a total religiosity score can be obtained by summing the scores from all items (Koenig & Büssing, 2010). Koenig and Büssing (2010) recommended scoring each subscale separately and analysing the relationship of each subscale with health outcomes if results are to be meaningful. Therefore, the score of each separate dimension of the DUREL can be defined by "religiosity as measured by the DUREL," as was formulated in the hypotheses.

Organizational religious activity, non-organizational religious activity and PTSD symptomatology. The relationship between organizational religious activity and PTSD symptomatology was not found to be statistically significant. The relationship

between non-organizational religious activity and PTSD symptomatology was found to be statistically significant, $t(108) = 2.02$, $p = 0.04$, $sr^2 = 0.02$ uniquely accounting for 2 % of the variance in PTSD symptomatology. As non-organizational religious activity increases, PTSD symptomatology increases among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. The summary Table for the post hoc analysis is presented in Table 10.

Intrinsic religiosity and PTSD symptomatology. The relationship between intrinsic religiosity and PTSD symptomatology was found to be statistically significant, $t(108) = -3.14$, $p = 0.002$, $sr^2 = 0.06$ uniquely accounting for 6 % of the variance in PTSD symptomatology. As intrinsic religiosity increases, PTSD symptomatology decreases among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

Post hoc power analysis. To assess what the power was in the study, post hoc power analysis was conducted. Post hoc power analysis revealed using the statistical program G*Power version 3.1.9.2 (Faul, Lang, & Buchner, 2007) that for multiple linear regression with 4 predictors, an observed effect size of $R^2 = 0.15$, $f^2 = 0.17$, observed probability level of $p = 0.001$, and a sample size of 118 participants, the power was 0.86.

Summary

Multiple linear regression analyses were conducted to examine the relationship between the independent variables, sense of community, ideology and religiosity, and the dependent variable, PTSD symptomatology, among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years. One hundred and fifty

residents of Sderot responded to the survey. After data were screened, an analysis was conducted on data from 118 participants. Consistent with previous researchers (Gelkopf et al., 2012; Stein et al., 2013), of the 118 study participants, 39 (33.05%) met the criteria for (provisional) PTSD. Covariate analysis indicated that gender was a significant covariate within this sample and controlled. Hypothesis testing indicated that ideology, was a significant predictor of PTSD symptomatology among resident of Sderot who have been exposed to terror attacks for more than 10 consecutive years. Post hoc analyses revealed that intrinsic religiosity, non-organizational religious activity, and fulfillment of needs dimension of sense of community were significant predictors of PTSD symptomatology among resident of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

Chapter 5 will provide an interpretation and analysis of these results. In addition, positive social change implications of these findings and future recommendations for continued research will be discussed.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to examine the impact of sense of community, ideology, and religiosity on PTSD symptomatology among residents of Sderot, Israel, who had been exposed to frequent terror attacks for more than 10 consecutive years. Four research questions guided the study. The first three questions tested the association between sense of community, ideology, and religiosity with PTSD symptomatology. The fourth research question assessed which of the three independent variables (sense of community, ideology, and religiosity) had the greatest impact on PTSD symptomatology among the residents.

Previous researchers (Gelkopf et al., 2012; Stein et al., 2013) suggested that sense of community, ideology, and religiosity might serve as protective factors against PTSD in the context of the ongoing terror attacks experienced in Sderot. Moscardino et al. (2010) and Huang and Swong (2014) found that higher levels of sense of community served as a protective factor against adverse psychological impacts of traumatic incidents. Kaplan et al. (2005) found that ideology was a protective factor against PTSD among people exposed to ongoing conditions of conflict and threat. Stein et al. (2013) found that Sderot residents who reported that they were religious had lower rates of PTSD. However, previous researchers did not measure sense of community, ideology, and religiosity by measures or instruments to examine how these variables correlate with PTSD symptoms among residents of Sderot who had been exposed to frequent terror attacks for more than 10 consecutive years (Stein et al., 2013).

The ongoing terror attacks experienced around the town of Sderot provided an opportunity to examine potential protective factors against PTSD in the context of chronic terror attacks for more than 10 consecutive years, and allowed for expanding terror research beyond the study of reactions to single terror attack incidents (Stein et al., 2013). This study was conducted to enhance an understanding of the impact of sense of community, ideology, and religiosity on PTSD symptoms among Sderot residents, in order to narrow the gap in knowledge of the possible protective factors against PTSD among Sderot residents who have been exposed to chronic terror attacks. The hope was to help alleviate the psychologically adverse influence of exposure to the chronic terror attacks for residents of Sderot. Identifying protective factors, as those examined in this study, could help a large portion of Sderot population and be invaluable toward promoting positive social change (Gelkopf et al., 2012). Identifying more protective factors would reduce PTSD symptomatology and improve mental health for more than one third of residents of Sderot.

Nature of the Study and Key Findings

I distributed survey questionnaires to Sderot residents. After the data were screened and cleaned, a convenience sample of 118 Sderot residents was established. As noted in Chapter 4, standard multiple linear regression analysis was used to assess the four research questions. According to the overall results, ideology was a significant predictor of PTSD symptomatology among resident of Sderot. Post hoc analyses revealed that intrinsic religiosity, nonorganizational religious activity, and the fulfillment of needs dimension of sense of community were significant predictors of PTSD symptomatology

among resident of Sderot who had been exposed to terror attacks for more than 10 consecutive years. This chapter provides an interpretation and analysis of these results including the limitations of the study, along with recommendations for further research and implications for positive social change.

Interpretation of the Findings

Covariates

As discussed in Chapter 2, the demographic variables of gender, age, and education have been correlated with PTSD symptoms (Gelkopf et al., 2012; Lauer & Solomon, 2008; Palmieri et al., 2008; Stein et al., 2013; Wayment, 2004). Therefore, these demographic variables could confound the results of this study. Indeed, studies have been inconsistent concerning the association of these demographic variables with PTSD symptoms among residents of Sderot. Gelkopf et al. (2012) found that, among Sderot residents, being older, female, and having lower education was associated with a higher PTSD symptom level. In contrast, Stein et al. (2013) found that only being female was a significant predictor for PTSD symptoms, but age and education were not associated with PTSD symptoms among Sderot residents. In this study, those three potential covariates of gender, age, and education were assessed as potential covariates. Only being female was significantly related to more PTSD symptoms. Therefore, gender was the only variable that was used as a covariate in the multiple linear regression analysis. This finding was consistent with Stein et al. (2013).

It is not possible to unequivocally determine the reason for the discrepancies between this study and Gelkopf et al.'s (2012) study. One possible reason the findings

supported Stein et al. (2013) but not Gelkopf et al. is that this study and Stein et al. took place after 2009, when rocket attacks on Sderot became more frequent and intense. Higher levels of education and a younger age might have some effect of protection against PTSD symptoms up to a certain level of traumatic exposure. When the intensity of the ongoing terror attacks increased above some threshold, the protective effect of higher education and younger age might fade out. That certain factors can protect against PTSD symptoms in low levels of traumatic exposure, and not serve as protective factors in higher levels of traumatic exposure has been observed by other researchers (Bentley et al., 2014)

Sense of Community as a Predictor of Post Traumatic Stress Disorder Symptomatology

As presented in Chapter 4, a sense of community was not a significant predictor of PTSD symptomatology among these residents of Sderot. In previous research, the correlation between sense of community and PTSD symptomatology was not examined among residents of Sderot. These findings are ostensibly inconsistent with previous research (Huang & Swong, 2014; Moscardino et al., 2010; Muldoon & Downes, 2007) conducted in other contexts than Sderot's ongoing terror attacks situation. Moscardino et al. (2010) found that in the context of the 2004 Beslan, Russia terrorist attack on a school that a higher sense of community was negatively correlated with depressive symptoms following the traumatic incident. Muldoon and Downes (2007) discovered that social identification and community solidarity were negatively associated with PTSD among residents of postconflict Northern Ireland who lived there during the civil conflict. Huang

and Swong (2014) found that survivors of the 2008 Wenchuan earthquake who had a higher sense of community experienced higher levels of life satisfaction and lower levels of depression following the disaster.

The difference between previous studies conducted in other contexts than Sderot's ongoing terror attacks and this study might be the high level of traumatic exposure of residents of Sderot. The sample had been exposed to frequent terror attacks for more than 10 consecutive years. Sense of community, as measured by the SCI, might serve as a protective factor against PTSD in lower levels of exposure compared to 10 consecutive years of frequent terror attacks (Huang & Swong, 2014; Moscardino et al., 2010). Bentley et al. (2014) observed that certain factors can reduce PTSD symptoms in people who experienced a low traumatic exposure and stop serving as protective factors in a higher traumatic exposure.

Previous researchers have not directly tested the association between sense of community and PTSD symptoms in Sderot residents (Stein et al., 2013). Past researchers (Gelkopf et al. 2012; Stein et al., 2013) found that residents of the rural region of Otef Aza who had been exposed to the same level of ongoing terror incidents as residents of the city of Sderot had a significantly lower rate of PTSD. Stein et al. (2013) found that 35.2% of Sderot residents had PTSD, while only 6.6% of Otef Aza residents had PTSD. Thus, it was hypothesized that sense of community might serve as a protective factor against PTSD for residents of Sderot.

The Otef Aza region of Israel comprises mainly kibbutzim. Briefly, kibbutzim are unique Israeli communities based on cooperation, mutual support, and complete equality

for its members (Ben-Rafael, 2009). Each member has a different role in the community, and each member receives the same allowance each month, no matter what his or her role. These communities are based on a model of social cohesiveness. Residents of these communities enjoy high solidarity, mutual support, and feel supported via the collective culture of their communities (Lev-Wiesel, 2003). Therefore, researchers (Braun-Lewensohn & Sagy, 2014; Gelkopf et al., 2012; Nuttman-Shwartz & Dekel, 2009; Stein et al., 2013) have hypothesized that these features, which can be captured partly by sense of community, might serve as a protective factor against PTSD from chronic terror attacks such as those experienced by residents of Sderot.

In this study, sense of community was measured by the SCI, which was developed to measure four dimensions of sense of community: membership, influence, fulfillment of needs, and emotional connection (Chipuer & Pretty, 1999). The membership dimension includes emotional safety, sense of belonging, and identification with the group. The influence dimension determines whether individuals believe they can affect the community. The fulfillment of needs dimension is identified as a reinforcement dimension, which determines the extent to which members get their needs met through cooperation within members of the group. Shared emotional connection is based on shared history of struggles, success, and the ability of individuals to identify with this history (Chipuer & Pretty, 1999). Post hoc analysis revealed that fulfillment of needs was a significant predictor of PTSD symptomatology among resident of Sderot who had been exposed to terror attacks for more than 10 consecutive years. As fulfillment of needs increases, PTSD symptomatology in this population appears to decrease.

Junger (2016) emphasized the central role of social cohesiveness in protection against PTSD in soldiers who return from prolonged wars. To base this argument, Junger analyzed how anthropologists, including Lee and DeVore (1968), have stressed sharing of resources equitably such as food as a main feature of cohesive groups. As a result, Junger believed that the dependence of each member of a group on others to meet the needs of survival is a main factor of social cohesiveness, which protects against PTSD.

As defined in Chapter 2, the most fundamental process of kibbutzim is sharing resources so that the needs of each individual are met through the collective effort. The basic principle of kibbutzim is that each member contributes to the group in his or her different role, and every member receives an equitable share. The dependence of each member on other members to fulfill his or her needs is the basic principle of kibbutzim. Therefore, residents of kibbutzim feel supported via the collective culture of their communities (Lev-Wiesel, 2003). Apparently, this feature is captured by the fulfillment of needs dimension of sense of community. The fulfillment of needs is identified as a reinforcement dimension, in which association with the community is experienced as rewarding to individual members (Chipuer & Pretty, 1999). Therefore, it is possible that the dimension of fulfillment of needs, rather than the other three dimensions of sense of community, successfully captured a unique, fundamental feature of Otef Aza communities. This fulfillment of needs dimension may protect residents of Otef Aza from PTSD, and serve as a protective factor against PTSD for these Sderot residents.

According to the diathesis–stress model of PTSD, three etiological pathways are associated with the disorder: residual stress, ecological diathesis, and biological diathesis

(McKeever & Huff, 2003). Ecological factors might influence vulnerability to develop PTSD through impact on cognitive patterns, and on biological and brain reactions (McKeever & Huff, 2003). Fulfillment of needs is an ecological factor that might influence vulnerability to develop PTSD. Junger (2016) concluded that the dependence of each member of a group on others to meet his or her own needs is a main factor which protects the individual against PTSD. A rewarding association with the community might reduce the distress accompanied with chronic terror attacks, and as a result, alleviate the adverse impact of ongoing exposure to terror attacks. In light of the diathesis–stress model of PTSD, the ecological factor of fulfillment of needs might change cognitive patterns associated with perception of the threat from chronic terror attacks and change the biological reaction to such a threat. Researchers who used the SCI usually discuss their findings in relation to the four dimensions of this scale. However, the SCI was usually used as a single entity, without the influence of each subscale being examined (Chipuer et al., 1999). Therefore, previous researchers (Huang & Swong, 2014; Moscardino et al., 2010) who used the SCI did not examine the impact of the specific dimension of fulfilment of needs on PTSD symptomatology.

Ideology as a Predictor of Post-Traumatic Stress Disorder Symptomatology

In the second research question, I examined whether ideology was a significant predictor of PTSD symptomatology among Sderot residents who had been exposed to terror attacks for more than 10 consecutive years. I found that the relationship was significant. As ideology increased, PTSD symptomatology decreased. Furthermore, in the fourth research question, I examined which of the three independent variables had the

greatest impact on PTSD symptomatology among the residents. Among the three independent variables of sense of community, ideology and religiosity, ideology was the strongest predictor of PTSD symptomatology. These findings are consistent with previous researchers (Garbarino et al., 1991; Kanagaratnam et al., 2005; Kaplan et al., 2005; Khamis, 2012; Muldoon & Wilson, 2001; Oren & Possick, 2010; Punamäki, 1996) who found that ideology was associated with fewer PTSD symptoms among people exposed to terror-related stressors. In previous research, the correlation between ideology and PTSD symptomatology among residents of Sderot had not been researched.

Khamis (2012) found that among residents of the Gaza strip, ideology was negatively correlated with depression and anxiety. Kaplan et al. (2005) assessed stress-related response in residents of Gush-Katif, Kiryat-Arba, and Tel-Aviv, Israel. Gush-Katif and Kiryat-Arba are settlements beyond the 1967 borders of Israel, and their residents have been exposed to daily war-zone conditions. Tel Aviv is a relatively peaceful area located in the heart of Israel (Kaplan et al., 2005). Gush-Katif was composed exclusively of Jews with high levels of ideological commitment (Kaplan et al., 2005). Kaplan et al. found that although residents of Gush-Katif had the highest levels of exposure to terrorist attacks, they had a lesser degree of various stress-related responses than the other two groups. Kaplan et al. concluded that ideological conviction was protective factor against adverse effects of ongoing conditions of conflict and threat as experienced by Gush-Katif residents.

According to the diathesis–stress model of PTSD, three etiological pathways are associated with the disorder: residual stress, ecological diathesis, and biological diathesis

(McKeever & Huff, 2003). Ecological factors might shape cognitive patterns and, as a result, influence perception of threats. Additionally, ecological factors might change biological processes and brain functioning and, as a result, change stress response. Therefore, ecological factors might influence vulnerability of individuals to develop PTSD (McKeever & Huff, 2003). The etiological pathway of ecological diathesis, in the context of the ecological factor of ideology, will be further explained below.

In this study, residents of Sderot who had higher levels of ideology and who saw their residence in Sderot as an important ideological value had fewer PTSD symptoms. Kaplan et al. (2005) argued that ideology instills the exposure to conditions of ongoing threats with existential meaning; consequently, ideology is an important protective factor against the negative psychological impact of ongoing conditions of conflict as experienced in Israel. Garbarino et al. (1991) argued that ideology offers meaning impenetrable to extreme brutalization, as experienced in the Holocaust, and can play a role in shaping the consequences of chronic terror attacks. Punamäki (1996) suggested that ideology enables people to construct meaning out of terror attacks, and this process of construction of meaning protects against the adverse effects of exposure to terror attacks.

In light of the diathesis–stress model of PTSD, ideology is an ecological factor that may increase the ability to cope effectively in situations of ongoing terror attacks, perhaps by assigning meaning to these situations and therefore shaping the cognitive perception of the ongoing terror attacks. In accordance with the diathesis–stress model of PTSD, ideology, via the etiological pathway of ecological diathesis, might influence the

subjective interpretation of traumatic experiences, the meaning attributed to them, and hence, reduce PTSD symptomatology from ongoing terror attacks as experienced by Sderot residents.

Religiosity as a Predictor of PTSD Symptomatology

In the third research question I sought to examine whether religiosity was a significant predictor of PTSD symptomatology among Sderot residents, who had been exposed to terror attacks for more than 10 consecutive years. Results indicated that the relationship between religiosity and PTSD symptomatology was not significant. Post hoc analysis revealed that intrinsic religiosity and nonorganizational religious activity were significant predictors of PTSD symptomatology. That is, as intrinsic religiosity increased, PTSD symptomatology decreased, and as nonorganizational religious activity increased, PTSD symptomatology increased. The relationship between organizational religious activity and PTSD symptomatology was not significant. In previous studies, researchers did not measure religiosity by a measure or instrument that assesses major dimensions of religiosity or the potential correlation with PTSD symptoms for residents of Sderot. They obtained information about religiosity by analyzing demographic data (Gelkopf et al. 2012; Stein et al., 2013).

The finding that as intrinsic religiosity increases PTSD symptomatology decreases is consistent with previous studies conducted in other contexts than the Sderot chronic terror attack situation (Aflakseir & Coleman, 2009; Fischer et al., 2006; Harrison et al., 2001; Johnson & Thompson, 2008; Schaefer et al., 2008). Schaefer et al. (2008) conducted a qualitative review of 23 selected studies that addressed the association of

religious factors with posttraumatic stress and found that intrinsic religious orientation was the main useful construct in measuring religiosity in the association with the consequences of trauma. Schaefer et al. found that intrinsic religiosity was associated with decreased PTSD symptoms and lower severity of intrusive and avoidant posttraumatic-stress symptoms. Positive religious coping, a construct with a strong association to intrinsic religious orientation, was also associated with fewer PTSD symptoms (Schaefer et al., 2008). Fischer et al. (2006) found that intrinsically religious people were less influenced by a high terror salience than nonreligious people. Intrinsic religiosity helped people to cope with threats of terrorism. Aflakseir and Coleman (2009) found that positive religious coping was negatively associated with PTSD and psychological distress among Iranian disabled war veterans, and greater use of positive religious coping was related to lower levels of PTSD. Johnson and Thompson (2008) conducted a comprehensive review to assess the literature regarding predictors of PTSD in civilian adult survivors of war trauma and found that a firm belief system may be protective against PTSD following war trauma. Harrison et al. (2001) found that intrinsic religiosity was negatively related to depressive symptoms among cancer patients. In the context of Sderot ongoing terror attacks situation, by analyzing the association between demographic characteristics and PTSD, Stein et al. (2013) found that people who reported that they were religious had lower rates of PTSD. In addition, a consistent finding across different researchers (Hobfull et al., 2008; Korn & Zukerman, 2011; Levav et al., 2008; Palmieri et al., 2008; Somer et al., 2009; Schiff, 2006; Stein et al., 2013) is that Orthodox Jewish people had lower levels of PTSD symptoms than non-Orthodox

Jewish residents of Israel, in the context of chronic Israeli wars and exposure to ongoing terror attacks.

As previously illustrated, according to the diathesis–stress model of PTSD, ecological factors might shape cognitive patterns and as a result influence perception of threats, and influence vulnerability of individuals to develop PTSD (McKeever & Huff, 2003). Intrinsic religiosity is characterized by the striving for meaning and value. Intrinsic religious orientation refers to religion as an end of itself (Fischer et al., 2006). Consistent with the diathesis–stress model of PTSD, people who believe that the world is meaningful and can find a system of meaning in the face of a trauma, that threatens to claim the world as meaningless, can in turn organize their world in face of a trauma. As a result, these individuals might be less vulnerable to the impact of trauma (Lilly et al., 2015). In accordance with the diathesis–stress model of PTSD, internal religious beliefs may change perceptions of traumatic events by helping individuals to make external attributions for the traumatic event: the trauma may be viewed as fate or the will of God (Johnson & Thompson, 2008). Traumatic events might shatter cognitions about the world and the self, and the ecological factor of intrinsic religiosity might provide a protective cognitive schema that enables integration of negative traumatic experiences with prior worldview (Laufer & Solomon, 2011). This cognitive protection mechanism is possible only when the belief is intrinsic and dominant in the cognitive hierarchy (Laufer & Solomon, 2011). In accordance with the diathesis–stress model of PTSD, intrinsic religious orientation enables individuals to put their faith in something bigger than themselves, and to assign meaning to traumatic events. Consequently, intrinsic religiosity

decreases vulnerability to develop PTSD following exposure to terror attacks (Laufer & Solomon, 2011).

As mentioned earlier, Stein et al. (2013) found by analyzing the association between demographic characteristics and PTSD symptoms that people of Sderot who reported that they were religious had lower rates of PTSD. Religiosity is composed of three dimensions: intrinsic religiosity, nonorganizational religious activity, and organizational religious activity (Koenig & Büssing, 2010). Stein et al. (2013) did not infer which component of religiosity is responsible for the protective effect among residents of Sderot. The current study demonstrated that the intrinsic religiosity component is the component of religiosity that is responsible for the protective effects of religiosity against PTSD symptoms from ongoing terror attacks among Sderot residents.

Two findings reflect past research by Bentley et al. (2014). In this study, the relationship between organizational religious activity and PTSD symptomatology was not significant; moreover, as nonorganizational religious activity increased, PTSD symptomatology increased among these residents of Sderot. Bentley et al. investigated the influence of the three dimensions of religiosity on PTSD symptomatology in a sample of 59 Muslim East African refuges living in the United States. The authors found that high levels of organizational religious activity and nonorganizational religious activity stopped having a protective effect as traumatic exposure increased. Bentley et al. found that high organizational religious activity was associated with reduced PTSD symptoms only for participants who reported a low traumatic exposure. For participants who had high rates of traumatic exposure, Bentley et al. found that the correlation between

organizational religious activity and non-organizational religious activity with PTSD symptomatology was positive. At high rates of traumatic exposure, as levels of organizational religious activity and non-organizational religious activity increased, PTSD symptomatology increased (Bentley et al., 2014). In addition, a post-hoc analysis showed a reduction in organizational religious activity as a result of increased traumatic exposure and moderate PTSD symptoms within the overall context of high rate or religious and nonorganizational religious activity. Bentley et al. deduced that participants who had higher levels of traumatic exposure and struggled with moderate PTSD symptoms reduced their organizational religious activity in favor of private, unstructured religious activities as an attempt to reduce distress. Their findings and interpretation are appropriate to describe the current results. Residents of Sderot have a high level of traumatic exposure after being exposed to frequent terror attacks for more than 10 consecutive years. In high levels of exposure, in accordance with Bentley et al. (2014), organizational religious activity and nonorganizational religious activity are not sufficient or potent enough to reduce PTSD symptoms. At high levels of exposure, a reverse process takes place: People who struggle with PTSD symptoms increase their nonorganizational, private, and unstructured religious activity as an attempt to reduce distress. This phenomenon can explain the positive correlation between nonorganizational religious activity and PTSD symptomatology observed in this study, and that the relationship between organizational religious activity and PTSD symptomatology was not significant in this study for residents of Sderot who had high levels of exposure.

In contrast to other findings (Butler et al., 2007; Chang et al., 2003; Freedom, 2010; Kelly, 2007), the relationship between organizational religious activity and PTSD symptomatology was not significant; furthermore, as nonorganizational religious activity increased, PTSD symptomatology increased. These researchers claimed that religious activities and organizational religious activity, in particular, were associated with lower levels of PTSD symptoms following trauma. However, as discussed, residents of Sderot have had drastically high, chronic levels of exposure for more than 10 consecutive years, type of exposure completely different from the kind of exposure discussed in the earlier studies. Bentley et al. (2014) found that at high rates of traumatic exposure, organizational religious activity and nonorganizational religious activity do not serve as protective factors against PTSD but also are positively correlated with PTSD symptoms.

Limitations of the Study

Correlational study. This study was a correlational study. Therefore, based on this study design, a causal inference between the independent variables, sense of community, ideology and religiosity, and the dependent variable, PTSD symptomatology, cannot be unambiguously determined (Campbell & Stanley, 1963).

External validity. In terms of external validity, the location was limited to Sderot, Israel, whose residents have been exposed to ongoing terror attacks. Therefore, the results cannot be generalized beyond residents of Sderot who have been exposed to frequent terror attacks for more than 10 consecutive years. In addition, participants included a convenience sample rather than a representative sample. Therefore, the generalizability of the results is limited (Campbell & Stanley, 1963). Participation was voluntary. Those

who agreed to volunteer could be different in some meaningful way from those who declined to participate (Wersma, 2013). Thus, the sample may have been unrepresentative of the entire population of Sderot, and as a result, the external validity of the results may be limited (Wiersma, 2013).

Internal validity. In terms of internal validity, all study variables were measured by self-report assessments. Participants may not have provided accurate answers in the self-report assessment, because they wished to present themselves in a socially acceptable manner, a phenomenon called social desirability bias (Brenner & DeLamater, 2014; Dadds, Perrin, & Yule, 1998). Second, PTSD symptom level was measured by the PCL-C. The gold standard for diagnosing PTSD is a structured clinical interview such as the Clinician-Administered PTSD Scale. The PCL-C is designed to assess symptoms of PTSD and not to make lifetime diagnosis of PTSD. However, the Clinician-Administered PTSD Scale takes 45-60 minutes to administer, in comparison to the 5- to 10-minute PCL-C. The PCL-C has been widely used by researchers, including those who studied the Sderot population, to assess PTSD symptomatology (Gelkopf et al., 2012; Stein et al., 2013; U.S. Department of Veterans Affairs, 2016). Third, the independent variables and the dependent variable may be associated with external variables not measured in the present study. If variables that were not included in the main analysis influenced the dependent variable, then the internal validity and the conclusions of the study would be limited (Field, 2013).

Recommendations

This study was a novel attempt to measure sense of community, ideology, and the three dimensions of religiosity and their relationship with PTSD symptoms among residents of Sderot who had been exposed to terror attacks for more than 10 consecutive years. An initial and promising finding was that as the fulfillment of needs dimension of sense of community increased, PTSD symptomatology decreased among Sderot residents. Fulfillment of needs was measured as a dimension of sense of community and not as an independent variable. Future researchers should measure fulfillment of needs by a more elaborated measure designed to measure dimensions of this specific construct and to further examine the relationship between fulfillment of needs and PTSD symptomatology among residents of Sderot.

In this study, organizational religious activity was not a significant predictor of PTSD symptomatology, additionally as nonorganizational religious activity increased, PTSD symptomatology increased. In accordance with previous research (Bentley et al., 2014), it was hypothesized that in high levels of traumatic exposure, organizational religious activity and nonorganizational religious activity would not be sufficient or potent enough to reduce PTSD symptoms. It was hypothesized that nonorganizational religious activity and PTSD symptomatology were positively correlated because at high levels of traumatic exposure, people who struggle with PTSD symptoms increase their nonorganizational, private, and unstructured religious activity to reduce distress (Bentley et al., 2014). This hypothesis should be examined among residents of Sderot in a future

study by measuring and including levels of traumatic exposure as an independent variable.

The main limitation of the study is that I used a convenience sample rather than a representative sample. Future researchers should strive to include a representative sample of residents of Sderot. This procedure is challenging to implement. One of the ways to achieve a representative sample is to use telephone interviews using in-region random digital methodology.

Implications for Positive Social Change and Recommendations for Practice

This study demonstrated the dreadful human suffering as a result of the ongoing conflict in Israel. About one third of the participants met the criteria for (provisional) PTSD. As such, protective factors are needed that might mitigate the adverse psychological impact of this chronic exposure to terror attacks.

This study filled a gap in the research literature and supported positive social change by broadening the knowledge of the factors that impact PTSD symptomatology from chronic terror attacks. Findings indicated that three main protective factors reduce PTSD symptoms for residents of Sderot who had been exposed to terror attacks for more than 10 consecutive years: higher levels of fulfillment of needs, ideology, and intrinsic religiosity. Findings have implications at the individual, organization, and community levels.

Enhancing fulfillment of needs. Fulfillment of needs determines the extent to which members get their needs met through cooperation within members of the group. This dimension determines the extent to which associations with the community is

experienced as rewarding to individual members (Chipuer & Pretty, 1999). As mentioned, the results showed that as fulfillment of needs increased, PTSD symptomatology decreased among Sderot residents. On the individual level, this information is useful to Sderot residents, who can use this information to increase their cooperation within members of the group. Their fulfillment of needs level can be enhanced by sharing different kinds of resources and the mutual enjoyment of cooperation.

On an organizational level, organizations should encourage cooperation and positive and rewarding interactions among residents of Sderot via different activities and settings. This can be achieved in many different and creative ways. For example, leaders of community centres could encourage activities of sharing of different kind of resources among Sderot residents. Each resident could share his or her expertise or skill, and in return, they could enjoy the resources of others. Such activities may increase the extent to which Sderot residents get their needs met through cooperation with other residents. The findings suggest such activities and interactions might reduce PTSD symptoms from ongoing terror attacks for residents of Sderot.

At the community level, the high rate of PTSD among residents of Sderot suggests that many residents have trouble working, studying, functioning within the family, or simply enjoying life. Such a community also needs to financially support its distressed members. Sderot leaders should be encouraged to implement programs and activities designed to enhance fulfillment of needs.

Ideology. As discussed earlier, those who saw their residence in Sderot as an important ideological value from national, religious, social, strategic, and political perspectives experienced lower levels of PTSD symptoms. On the individual level, the implication of positive social change is that this information is useful to Sderot residents. Residents should be encouraged to self-examine and discuss this issue with other residents, in order to find and sharpen their own value, meaning, and importance in living in Sderot.

On an organizational level, the implication of positive social change is that organizations should encourage discussions, dialog, and debates in various different settings concerning the ideological importance in living in Sderot. The education system in Sderot could incorporate activities wherein the value of living in Sderot would be explained and clarified through open discussions and debates. Those who saw their residence in Sderot as an important value experienced lower levels of PTSD symptoms. Thus, each resident should be encouraged to find his or her private meaning and value in living in Sderot, through different activities and in different various settings. Doing so might help the residents to mentally deal with the ongoing terror attacks and to reduce PTSD symptoms.

At the community level, as mentioned before, a community with a high rate of PTSD is a community that has difficulties in functioning and needs to financially support its residents. Given the association between ideology and PTSD symptoms among residents of Sderot, community leaders should implement and fund programs designed to

enhance residents' understanding of their meaning, value, and importance in living in Sderot.

Intrinsic religiosity. As mentioned, intrinsic religiosity includes personal commitment and motivation and is characterized by the striving for meaning and value; intrinsic religious orientation refers to religion as an end in itself (Fischer et al., 2006). In this study, higher levels of intrinsic religiosity were associated with lower levels of PTSD symptoms among residents of Sderot.

On the individual level, the implication of positive social change is that this information is useful to Sderot residents. They could use this information to increase their awareness of the role and the protective effect of striving for meaning and value in their life. This information can be helpful to religious Sderot residents to strive seeing religion not just as a tool to reach self-serving ends, but as an end of itself**.**

On an organizational level, the implication of positive social change is that organizations will encourage discussions, dialog, and debates in various different settings concerning value and meaning of life. Community centres and the education system in Sderot could incorporate programs that promote residents of Sderot to find meaningful framework in their lives. For those who are religious and interested, organizations could promote the importance in seeing religion not as a tool to reach self-serving ends but as an end of itself**.**

A community with high rate of PTSD is one that has severe difficulties in functioning. Findings concerning the association between intrinsic religiosity and PTSD symptoms among residents of Sderot might inform community leaders about the benefits

of implementing and funding programs designed to enhance Sderot residents strive for meaning and value in their life.

Conclusions

Findings support previous research concerning the human suffering as a result of the ongoing conflict in Israel. One third of the participants met the criteria for (provisional) PTSD. The overall aim of this study was to identify protective factors against PTSD in the context of experiencing incidents of terror for more than 10 consecutive years. This study was a novel attempt to measure sense of community, ideology, and the three dimensions of religiosity, and to examine the relationship of these variables with PTSD symptoms among residents of Sderot. Residents with higher levels of fulfillment of needs, ideology, and intrinsic religiosity had fewer PTSD symptoms in this study. Higher levels of fulfillment of needs, ideology, and intrinsic religiosity might serve as protective factors against PTSD among residents of Sderot who have been exposed to terror attacks for more than 10 consecutive years.

Therefore, based on this study findings, the implications of this study for positive social change for the residents of Sderot who have been exposed to chronic terror attacks, include increased positive interactions, increased sense of well-being, and increased sense of meaning and value in their lives

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Appendix A: Consent Form

Factors which enhance and protect wellbeing in people exposed to terror attacks

You are invited to participate in a research study of factors which enhance and protect wellbeing in people who have been exposed to terror attacks for more than 10 consecutive years. You were selected as a potential participant in this study because you are a resident of Sderot. We ask that you read this form and ask any questions you may have before agreeing to be in the study. This study is being conducted by Nuriel Mor, a doctoral candidate at Walden University.

Background Information: The purpose of this study is to identify factors which enhance and protect wellbeing in people who have been exposed to terror attacks for more than 10 consecutive years.

Procedures: You will receive 5 short questionnaires. You should be able to complete all questionnaires in 10 minutes. You can either complete the forms here at the shopping center or you can complete the forms in any other place and bring back the completed forms by the end of my stay at Sderot's shopping center, at_____. In addition, you can mail the forms back to me via a pre-paid return envelope which I provide.

Confidentiality: No identifying information will be collected. It is impossible to identify a participant.

Voluntary Nature of the Study: Your participation in the study is voluntary and you are free to withdraw at any time during the process of completing the surveys.

Risks and Benefits of being in the Study: There are no physical risks and no benefits to participating in the study. You as a resident of Sderot have experienced terror attacks for more than 10 consecutive years. While completing questions which deal with your wellbeing and the possible effect of this experience on your wellbeing, becoming emotionally upset might be a possibility. Although this is not expected, if you experience any kind of distress, you may contact Sderot Mental Health Station. A card with contact information of Sderot Mental Health Station is provided. Sderot Mental Health Station offers free mental health services to people who are in need. Participants are not obligated to complete any parts of the questionnaires with which they are not comfortable. Study findings might suggest factors which enhance and protect wellbeing for Sderot residents.

Contacts and Questions: The researcher conducting this study is Nuriel Mor. He can be reached by email at nuriel.mor@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is +1-612-312-1210. Participants who want to contact the researcher for the results can choose to do so by email. Walden University's approval number for this study is 04-29-16-0377723 and it expires April 28, 2017.

Statement of Consent: I have read the above information. I have asked any necessary questions and received answers. I consent to participate in the study.

If you feel you understand the study well enough to make a decision about it, please indicate your consent by returning a completed survey.

You may keep a copy of the informed consent form.

Appendix A: Hebrew

גורמים המגנים על הבריאות באנשים שחשופים להתקפות טרור

אתה מוזמן להשתתף במחקר שמטרתו לזהות גורמים המגנים על הבריאות באנשים שנחשפו להתקפות טרור מעל 10 שנים רצופות. נבחרת למחקר זה כיוון שהנך תושב שדרות. אנו מבקשים שתקרא את הטופס הזה, ותשאל כל שאלה שהיא לפני שהנך מסכים להשתתף במחקר. המחקר נערך ע"י נוריאל מור, מועמד לדוקטורט באוניברסיטת וולדן.

רקע כללי: מטרת מחקר זה היא לזהות גורמים המגנים על הבריאות באנשים שנחשפו להתקפות טרור מעל 10 שנים רצופות.

הליך: תקבל חמישה שאלונים קצרים. הזמן המשוער למילוי השאלונים הוא 10 דקות. אתה יכול למלא את השאלונים כאן, במרכז הקניות או לחילופין, תוכל למלא את השאלונים במקום אחר, ולהחזיר אותם אלי עד לתאריך_____ . בנוסף, ניתן להחזיר את השאלונים בדואר, באמצעות מעטפות ששולמו מראש, ואשר מסופקים על ידי.

סודיות: לא יאספו פרטים מזהים. לא יהיה ניתן לזהות משתתף.

מחקר התנדבותי: ההשתתפות היא בהתנדבות ואתה חופשי לצאת מהמחקר בכל עת.

סיכונים והטבות כתוצאה מהשתתפות במחקר: אין סיכון גופני ואין הטבות כתוצאה מהשתתפות במחקר. כתושב שדרות חווית התקפות טרור מעל ל10 שנים ברציפות. בזמן מילוי השאלונים אשר עוסקים בבריאותך ובהשפעת החוויה על בריאותך עלולה להתפתח אי נוחות רגשית. למרות שזה לא מצופה, במידה ואתה חווה מצוקה מכל סוג שהיא, אתה יכול לפנות לתחנה לבריאות הנפש, שדרות. כרטיס עם פרטי התקשרות של התחנה לבריאות הנפש, שדרות מסופק. התחנה לבריאות הנפש שדרות, מציעה שירות חינם לאנשים הזקוקים לכך. משתתפים לא חייבים לסיים את השאלונים ולא חייבים למלא חלקים שגורמים לאי נחת. ממצאי המחקר יוכלו להציע גורמים המגנים על הבריאות עבור תושבי שדרות.

נתוני התקשרות ושאלות. החוקר שעורך את המחקר הזה הוא נוריאל מור. ניתן ליצור קשר באימייל:

nuriel.mor@waldenu.edu

אם ברצונך לשוחח על זכיותיך כמשתתף, אתה יכול ליצור קשר עם ד"ר ליאנטי אנדיקוט נציג האוניברסיטה

בטלפון 1210-312-612-1+

משתתפים שרוצים ליצור קשר עם החוקר עבור התוצאות יכולים לעשות כן באמצעות האימייל.

מספר האישור של אוניברסיטת וולדן עבור המחקר הזה הוא 04-29-16-0377723

ותוקפו עד 28 באפריל, 2017.

הצהרת הסכמה: קראתי את האינפורמציה למעלה. קבלתי מענה לכל שאלותיי. אני מסכים להשתתף במחקר.

אם אתה מרגיש שהבנת את המחקר כך שאתה יכול לקבל החלטה לגבי ההשתתפות, החזרת שאלונים

ממולאים היא אינדיקציה להסכמתך להשתתפות במחקר.

הנך רשאי לשמור עותק של מסמך זה.

Appendix B: Sderot Mental Health Station

If you feel any emotional upset or distress, you can contact or visit Sderot Mental Health Station at Habrush 34, Sderot. Phone number: 08-6890602. The service is for free.

Appendix B: Hebrew

תחנה לבריאות הנפש שדרות

במידה והנך מרגיש אי נוחות רגשית או מצוקה אתה יכול לפנות לתחנה לבריאות הנפש, שדרות, ברחוב הברוש 34, 08-6890602. השרות ניתן בחינם.

Appendix C: Demographic Questionnaire

Completion of this questionnaire is significant for the study. All of these records will remain confidential. Please check or fill the appropriate line.

Gender:

_____ Male

_____ Female

Age _____

Educational background

_____Elementary school

_____ Elementary school graduate

_____ High school

_____High school graduate

_____ Bachelor's degree

_____ Master's degree

_____ Doctoral degree

Are you going to complete the survey at the shopping center? _____

Appendix C: Hebrew

שאלון דמוגרפי

מילוי שאלון זה משמעותי למחקר. כל השאלונים חסויים. אנא ענה על השאלון.

מין:

זכר_____

נקבה____

גיל:_____

השכלה:

בית ספר יסודי_____

בוגר בית ספר יסודי_____

תיכונית_____

בוגר תיכון_____

תואר ראשון_____

תואר שני_____

דוקטורט_____

האם אתה עונה על השאלונים במרכז הקניות ?_____

Appendix D: PTSD CheckList – Civilian Version

Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem *in the last month*.

No.	Response	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories, thoughts, or images* of a stressful experience from the past?					
2.	Repeated, disturbing *dreams* of a stressful experience from the past?					
3.	Suddenly *acting* or *feeling* as if a stressful experience *were happening* again (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of a stressful experience from the past?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful experience from the past?					
6.	Avoid *thinking about* or *talking about* a stressful experience from the past or avoid *having feelings* related to it?					
7.	Avoid *activities* or *situations* because they *remind you* of a stressful experience from the past?					
8.	Trouble *remembering important parts* of a stressful experience from the past?					
9.	Loss of *interest in things that you used to enjoy?*					
10.	Feeling *distant* or *cut* off from other people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

Appendix D: Hebrew

רשימת בדיקה PTSD – גרסה אזרחית

להלן רשימה של בעיות ותלונות שמועלות לפעמים על ידי אנשים בתגובה לחוויות חיים מלחיצות. אנא קרא כל אחת בקפידה, וסמן "X" בתיבה על מנת לציין עד כמה בעיה זו הטרידה אותך *בחודש האחרון*.

מס'	תגובה	כלל לא (1)	קצת (2)	במידה בינונית (3)	די הרבה (4)	במידה קיצונית (5)
1	זיכרונות, מחשבות, או דימויים חוזרים ונשנים ומטרידים על חוויה מלחיצה מהעבר?					
2	חלומות חוזרים ונשנים ומטרידים על חוויה מלחיצה מהעבר?					
3	התנהגות או הרגשה פתאומית כאילו חוויה מלחיצה מתרחשת שוב (כאילו אתה חווה מחדש)?					
4	מרגיש נסער מאוד כאשר משהו הזכיר לך חוויה מלחיצה מהעבר?					
5	חווה תגובות פיזיות (כמו דפיקות לב חזקות, קשיי נשימה או הזעה) כאשר משהו הזכיר לך חוויה מלחיצה מהעבר?					
6	הימנעות מחשיבה או דיבור על חוויה מלחיצה מהעבר או הימנעות מלהחזיק בהרגשות הקשורות בה?					
7	נמנע מפעילויות או מצבים מפני שהם מזכירים לך חוויה מלחיצה מהעבר?					
8	מתקשה לזכור חלקים חשובים מחוויה מלחיצה מהעבר?					
9	אובדן עניין בדברים שנהנית מהם בעבר?					
10	מרגיש מרוחק או מנותק מאנשים אחרים?					
11	מרגיש רדום מבחינה רגשית או שאין לך יכולת להרגיש אהבה כלפי הקרובים אליך?					
12	מרגיש כאילו העתיד שלך ייגדע באיבו בדרך כזו או אחרת?					
13	מתקשה להירדם או לישון?					
14	מרגיש עצבני או חווה התפרצויות כעס?					
15	מתקשה להתרכז?					
16	אתה "ערני יתר על המידה" או תמיד על המשמר?					
17	מרגיש שאתה קופצני או נבהל בקלות?					

Appendix E: Sense of Community Index

You going to read some statements that people might make about their [block]. Please put an "X" in the box to indicate if it is mostly true or mostly false about your [block].

No.	Statement	True	False
1.	I think my [block] is a good place for me to live.		
2.	People on this [block] do not share the same values.		
3.	My [neighbors] and I want the same things from the [block].		
4.	I can recognize most of the people who live on my [block].		
5.	I feel at home on this [block].		
6.	Very few of my [neighbors] know me.		
7.	I care about what my [neighbors] think of my actions.		
8.	I have no influence over what this [block] is like.		
9.	If there is a problem on this [block] people who live here can get it solved.		
10.	It is very important to me to live on this particular [block].		
11.	People on this [block] generally don't get along with each other.		
12.	I expect to live on this [block] for a long time.		

Appendix E: Hebrew

מדד תחושת קהילה

בפניך מספר הצהרות שאנשים יכולים להעלות בנוגע ל[שכונה] שלהם. אנא סמן "X" בתיבה על מנת לסמן אם ההצהרה בעיקר נכונה או לא נכונה בנוגע ל[שכונה] שלך.

מס'	הצהרה	נכון	לא נכון
1	אני חושב שעבורי ה[שכונה] שלי היא מקום טוב לחיות בו.		
2	אנשים ב[שכונה] זאת לא מחזיקים באותם ערכים.		
3	[השכנים] שלי ואני רוצים את אותם הדברים מה[שכונה].		
4	אני יכול לזהות את רוב האנשים שגרים ב[שכונה] שלי.		
5	אני מרגיש בבית ב[שכונה] זאת.		
6	מעטים מאוד מבין [השכנים] שלי מכירים אותי.		
7	אכפת לי מה חושבים [השכנים] שלי על הפעולות שלי.		
8	אין לי השפעה על מצבה של [שכונה] זאת.		
9	אם קיימת בעיה ב[שכונה] זאת, האנשים שגרים כאן יכולים לפתור אותה.		
10	חשוב מאוד עבורי לגור ב[שכונה] זאת.		
11	אנשים ב[שכונה] זאת בדרך כלל לא מסתדרים זה עם זה.		
12	אני מצפה לחיות ב[שכונה] זאת למשך זמן רב.		

Appendix F: Duke University Religion Index

Please answer the questions below. Circle your answers.

(1) How often do you attend church or other religious meetings? (ORA)

1 - Never; 2 - Once a year or less; 3 - A few times a year; 4 - A few times a month; 5 - Once a week; 6 - More than once/week

(2) How often do you spend time in private religious activities, such as prayer, meditation or Bible study? (NORA)

1 - Rarely or never; 2 - A few times a month; 3 - Once a week; 4 - Two or more times/week; 5 - Daily; 6 - More than once a day

The following section contains 3 statements about religious belief or experience. Please mark the extent to which each statement is true or not true for you.

(3) In my life, I experience the presence of the Divine (i.e., God) - (IR)

1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me

(4) My religious beliefs are what really lie behind my whole approach to life - (IR)

1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me

(5) I try hard to carry my religion over into all other dealings in life - (IR)

1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me

Appendix F: Hebrew

מדד דת – אוניברסיטת דיוק

אנא ענה על השאלות מטה. סמן את התשובות שלך בעיגול.

(1) באיזו תכיפות אתה מבקר בבית הכנסת שלך או באספות דתיות אחרות? (ORA)
1 – אף פעם; 2 – אחת לשנה או פחות; 3 – מספר פעמים בשנה; 4 – מספר פעמים בחודש; 5 – אחת לשבוע; 6 - יותר מאחת לשבוע

(2) באיזו תכיפות אתה משקיע את זמנך בפעילויות דת פרטיות, כמו תפילה, מדיטציה, או לימודי תורה? (NORA)
1 – לעיתים נדירות או אף פעם; 2 – מספר פעמים בחודש; 3 – אחת לשבוע; 4 – פעמיים בשבוע ומעלה; 5 – בכל יום; 6 – מספר פעמים ביום.

החלק הבא מכיל 3 הצהרות על אמונה או חוויה דתית. אנא סמן את המידה שבה כל הצהרה נכונה או לא נכונה עבורך.

(3) בחיים שלי, אני חווה את הנוכחות של האל – (IR)
1- לא נכון בהחלט; 2 – נוטה לא להיות נכון; 3 – לא בטוח; 4 – נוטה להיות נכון; 5 – בהחלט נכון לגבי

(4) האמונות הדתיות שלי באמת נמצאות בבסיס הגישה המלאה שלי לחיים – (IR)
1- לא נכון בהחלט; 2 – נוטה לא להיות נכון; 3 – לא בטוח; 4 – נוטה להיות נכון; 5 – בהחלט נכון לגבי

(5) אני מתאמץ רבות כדי להכניס את הדת שלי לכל העיסוקים האחרים בחיים – (IR)
1- לא נכון בהחלט; 2 – נוטה לא להיות נכון; 3 – לא בטוח; 4 – נוטה להיות נכון; 5 – בהחלט נכון לגבי

Appendix G: The measure of Oren and Possick for ideology

בשאלות הבאות הנך מתבקש/ת להשיב באיזו מידה היעדים הבאים חשובים עבורך בהתגוררות בשדרות.

	חשוב ביותר			בכלל לא חשוב
אידיאולוגי (מבחינה לאומית, חברתית או דתית)	א	ב	ג	ד
אסטרטגי-בטחוני (הגנה על ישראל באמצעות התיישבות בסמוך לעזה)	א	ב	ג	ד
פוליטי (ניסיון למנוע התפשטות של הפלסטינאים לאזורים הסמוכים לעזה)	א	ב	ג	ד